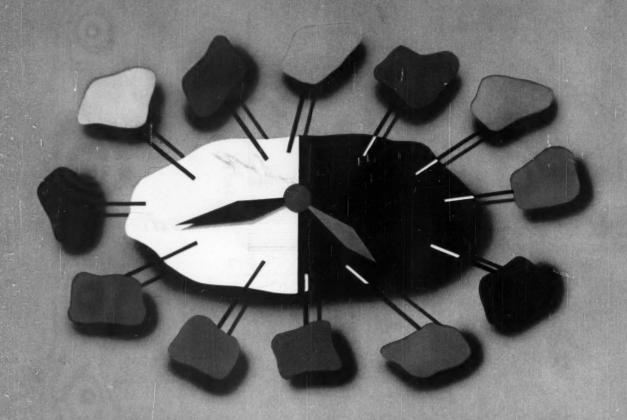
# DUN'S REVIEW and Modern Industry

A Dun & Bradstreet PUBLICATION

MARCH, 1955 75 cents

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# DUN'S REVIEW and Modern Industry

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How Can Trade Associations Avoid Anti-Trust Hazards?	
Walter Mitchell, Jr.	, see especially:
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and

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#### Industry's Profitable Problem Child

Industry's most basic raw material—plain water—is no longer "plain," abundant—or free. It's a major industrial problem in every section of the country. But it's also an industrial opportunity—for producers of everything from chemicals to overhead cranes. This three-part article outlines problems, markets, Government policies.



#### Our Cover

The southern tip of Bayonne, New Jersey presents a view of oil storage tanks and one approach to the Bayonne Bridge. This bridge, the world's longest steel arch bridge, has a span of 1,675 feet.

COLOR PHOTOGRAPH BY LOCKWOOD, KESSLER & BARTLETT

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#### **BUSINESS IN MOTION**

# To our Colleagues in American Business ...

The assembly shown here is the actuating mechanism of an overload device, used to interrupt the current of electricity when it exceeds a certain value. Thus, it protects the apparatus connected to the lines with which it is associated. Naturally, the contacts are of copper, since copper has the highest electrical conductivity of any commercial metal. You will note the special forms of the two contact blocks. These are supplied to the manufacturer as extruded copper shapes, so that to make the contacts it is

necessary only to cut pieces of the right length from the extrusion delivered by Revere, and drill the holes.

This method of slicing parts off a pre-formed shape can provide important economies by greatly reducing machining time. Take the bottom angular contact, for example. During development work this piece was milled from solid copper bar, dimensions 1 x 2 inches. The bar weighed 7.75

pounds per foot, and in machining it to the required form, 1.8 pounds of scrap per foot were generated. Copper scrap is readily salable at good prices, of course, but the chief expense in this operation was machining.

Once the design had proved itself under severe tests, Revere suggested copper shapes instead of plain bar. In the case of the angular contact, use of an extruded shape saved 1.75 pounds per foot, a reduction in weight sufficient to save almost 44 cents per foot over the plain bar. Larger savings were made by the reduction in machining time, and in the

labor involved in handling scrap. Production also was speeded up. Though the shape cost more per pound than the bar, it made possible economies that much more than absorbed this.

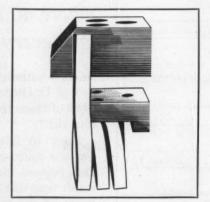
• Another example, not illustrated here, has to do with an electronic device. The base plate must be non-magnetic, and brass was chosen. The design was rather simple, and one would not usually suppose that a special extruded shape would save money. However, to produce the part from solid bar, which

weighed 1.61 pounds p foot, required three separate operations. The extruded shape weighs 1.22 pounds per foot, and its use reduces machining to a single operation. Result: a saving of 15 cents per part.

• These two examples are taken from the Revere files, which contain remarkable evidence of the economies that can be realized through extruded shapes. If your plant is doing any extensive ma-

chining of plain bar in copper and copper-base alloys, or aluminum alloys, look into extruded shapes. They can be furnished in much more complicated shapes than those illustrated, and can save important sums.

If you do not work with any of the Revere Metals, but with other materials, we suggest you get in touch with your suppliers and see if they may not be able to find ways to save you money. In buying, please remember that it is not the cost per pound or ton or gallon that is important, but the cost of the finished item. Sometimes paying a little more for materials may make the end product cost less.



#### REVERE COPPER AND BRASS INCORPORATED

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This month the news from Washington highlights: The President's Economic Report... Federal Reserve Chairman Martin's thoughts on official vs. civilian opinion... Strauss and Dixon-Yates... "full" employment... defense expenditures...

No PUBLIC DOCUMENT is combed over more thoroughly than is the economic report of the President. Despite the fact that it was submitted to Congress on January 20, it continues to be one of the choice bones of contention. Comment runs the gamut from acclaim to disparagement. The detailed work of the Council of Economic Advisers is admittedly valuable, but since the economic advisers would be disinclined to differ openly with the President many feel that they should express to the President privately what they really think.

The feeling is expressed in responsible quarters that there is too little Eisenhower in the report, too much of the Council, and too much of the political speech-writer. The no-clouds-in-the-sky theme coupled with the inference that the method of dispelling them is ready and waiting if they do appear is not regarded by some as an

objective approach.

Weaknesses in the economy, they feel, should at least be mentioned so they will not come as a surprise if they gain in strength. Conservative members of the Joint Congressional Committee on the economic report are outspoken in commending three pages signed by the President because of the emphasis it puts on the need for substantial economic growth; for stability; for increased productivity; for avoiding encroachment on the private sector of the economy; for a competitive environment; and for a "great ten-year" highway program.

- During uncertain periods, such as have existed in recent months, the business executive must rely chiefly on himself. In times when there are violent cross currents and sudden changes decisions must be made by those close to the picture. Intimate knowledge of one's own business and the exercise of common sense must be depended upon until the situation clears up. Government is not in as good a position as the individual business man to advise when no one knows what is likely to-happen. This is the thought of William McChesney Martin, chairman of the Federal Reserve.
- February saw substantial additions to the ranks of the pessimists. For the pace of business to slow down in February is the usual seasonal development, but it encouraged comment from the "it-cannot-last" school. Officials generally see nothing ominous in the situation, but feel that it tends to check undue buoyancy to have a few bogies lurking around. They are mindful of the benefits which come from healthy skepticism.
- ★ A big behind-the-scenes debate preceded the Treasury's most recent excursion into long-term financing. It took courage on the part of Treasury Secretary Humphrey but he put his faith in the future and refused to be dominated by fear of unfavorable possibilities or to be swayed by a few legislators who raise a hue every time bonds slip a little.
- Efforts to scuttle the Dixon-Yates contract, its proponents feel, ignore the fact that a contract cannot be cancelled without a showing of fraud. Every opportunity has been offered for the presentation of such evidence, but it has not been forthcoming. Admiral Lewis L. Strauss, the chairman of the Atomic Energy Commission, admits

that the opposition has been successful in stirring up widespread confusion and has tried to make it appear that something has been put over on the people. He says the contract has been given the most thorough public ventilation and was entered into with the express approval of Congress.

New mechanical equipment will make it possible for the public to get census returns more promptly this year than ever before. Very ambitious schedules have been prepared. To carry them out, however, requires the co-operation of business concerns and other sources of information. Returns thus far have been coming in at an encouraging rate. Experience has shown that principal difficulties are experienced in getting final 10 per cent of returns. An unusually vigorous follow-up plan has been adopted.

Enough tests have been worked out to demonstrate the capacity and the versatility of the new electronic equipment in handling census data but there still is doubt if available personnel has the

experience to take full advantage of it.

As was pointed out at the time the bill was under discussion "full" employment is a relative and not an absolute term. While the word "full" is more expressive, what was meant was maximum possible employment. It was recognized that there is an irreducible minimum of frictional unemployment. It also is pointed out that it never will be possible to employ everybody everywhere to work where they wish and under salary and other conditions they want.

Important changes in policy by the Joint Committee on the Economic Report are being made under the chairmanship of Senator Paul Douglas. A scholarly feature in the past has been a wind-up session at which previous testimony on monetary, fiscal, agricultural, labor, and other subjects would be appraised. Senator Douglas, the new chairman, has ruled out that session, saying that the appraisal of the hearings should be left to the public. With the change in the control of Congress, the chairmanship of the Joint Committee passed from Representative Jesse P. Wolcott to Senator Douglas; the vice-chairmanship from Senator Ralph E. Flanders to Representative Wright Patman.

In retiring from the chairmanship, Representative Wolcott called attention to the record the committee had made in handling its work in an unspectacular, objective, and non-partisan manner.

Congress will talk at length about increasing the defense budget, but is not likely to add much to the recommended appropriation. Defense expenditures now before Congress are three times greater than they were at the time of the outbreak in Korea. Since the administration is convinced that the present rate of output, plus stocks on hand, are ample to take care of any situation that may arise, those urging increased defense expenditures will get no aid from the executive branch.

aue evooton

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#### VOICE OF INDUSTRY

Marketing planning must keep in step with production planning; automation is a necessary part of future production; the corporation, the community, and good citizenship; second looks at the social welfare system.

Needed: Long-range marketing plan



"Sales and advertising budgets must not be kicked around..."

#### R. ROBERT ZISETTE

Vice-President, SKF Industries, Inc., before meeting of Maryland Industrial Marketers, Baltimore, Maryland.

Marketing methods today are being out-distanced by improvements in production. We are failing to match developments in mechanization and automation with corresponding improvements in selling.

When business authorizes millions of dollars for increases in production and productive efficiency, it should automatically invest additional money for the purpose of increasing sales. When production is double many more buyers have to be found, and by and large this requires twice the sales effort. We cannot count on improved product, lower price, or even the increase in population to bring the avalanche of new customers which will be needed in the future.

Sales and advertising budgets must not be kicked around just because business is a little better or a little worse from month to month. The marketing program projected for the future should be just as unassailable as the research or production programs. The long-range production plan does not permit much financial hedging—and neither should the long-range sales program.

The selling job from day-to-day is one of moving merchandise. All of you, as advertising specialists,

are concerned with the job of moving goods in and out of your company's warehouses, and if possible, at a profit. But I submit that you face an even more challenging job as you look down the road to the future. You must plan with infinite care and clairvoyant vision what the character and nature of your advertising activities will be next year, the year after, five, and even ten years hence.

#### Keeping up with automation times



"... we must be willing to adjust ourselves to new

#### W. C. NEWBERG

President, Dodge Division, Chrysler Corp., before Society of Automotive Engineers, Detroit, Michigan.

Whether we are for it or against it, automation is here and it is here to stay.

It behooves each of us to look about and see what effects these changes in the factory will have on us. First of all it means that we must be willing to adjust ourselves to new ways of doing things and new ways of thinking about production problems and accept the opportunities that they offer. We must make our adjustments quickly. If we fall behind, we will find our places taken by others with more foresight and greater adaptability, just as any company-certainly any automobile companymust adapt and change and invent or become a relic. . . .

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of skills that are unheard of today. Forward-looking companies do not wait for these skills to be developed in sufficient quantities from outside sources. They help their workers through special schools and courses to acquire the skills that the new automated factories of the future will require.

There are still some manufacturers who consider automation valuable only to the extent that productive labor can be reduced through the use of automated machinery. No policy could be more short-sighted. The approach to automation strictly from the standpoint of reduction in productive labor is false economy. It simply will not pay off in the long run.

There is no doubt that on some operations manpower can be saved through the use of automated equipment. The overall effect of automation, however, probably will be to increase total employment.

Five pillars of corporate wisdom



"... establish and maintain good external relations..."

#### REUBEN B. ROBERTSON, JR.

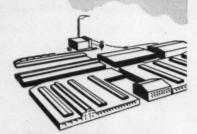
President and Chairman of the Board, Champion Paper & Fibre Co., before Congress of American Industry, N.Y.

When I speak of good corporate citizenship I simply mean that a corporation should fully enter into the life of the community—as well as that of the state and the nation—the same as any public spirited individual citizen. To do less, it seems to me, lends credence to the charge that corporations are rather impersonal creations of the business world with their eyes only on the profit and loss statement.

Before a company can be a good citizen, however, there are a few fundamental requirements — five pillars of support—which I think must be met:

First, the corporation must be a profitable one. If it does not make a profit, it will be able to contribute nothing to the community welfare. Instead of an asset to the community, it becomes more of a detri-

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ment to the over-all economic wellbeing of the community.

Second, it must have a good organization. The corporation must be functionally sound and staffed by individuals who have the desire and the ability to contribute to the over-all community welfare.

Third, it must have good internal relations, based on the philosophy of harmony and mutual interest. This embraces the acceptance and actual use of sound human relations policies throughout the entire structure of the company.

Fourth, the corporation must establish and maintain good external relations with the community. It must contribute its fair share to community affairs and to the overall community development.

And, finally, the corporation must have that intangible element of sincerity present in its every action which will give life and meaning to the other four.

Social welfare needs reviewing



"We should determine the philosophy of such programs..."

LOUIS W. DAWSON

President, Mutual Life Insurance Co. of New York, before Life Insurance Association of America, New York.

Before this country's social welfare plans are extended further, or before any new ones are adopted, I would suggest a thorough and impartial study of our whole social welfare system and all its implications. We should determine the philosophy and ultimate objectives of such programs; examine overlapping or conflicting plans; review the soundness and future cost of existing plans; consider any new plans in the light of the country to support them; and continuously analyze the impact of all such plans on other elements in our economy. The overall purpose would be to make sure we did nothing that would adversely affect the productivity and economic progress of the country, upon which all social welfare plans must depend for their validation, in the final analysis.



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# **New Inspection Tool**



flaws or check alignment of parts. Here are some Cuts weight and cost through elimination of over-design.

Example: Betatron inspection reduced the "factor of ignorance" by assuring casting quality. Result: A product that uses less material, is easier to manufacture, and easier

Permits safe use of welds because betatron's speed and depth of penetration permits heretofore impossible inspection. Example: A simple two-piece welded part replaced a complicated casting.

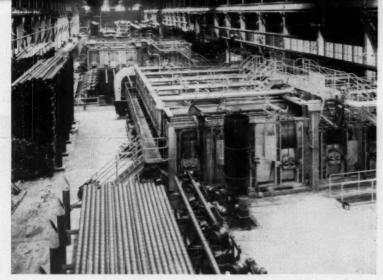
Saves machine time—betatrons find flaws in raw material before machining. Example: Savings in machine time that would otherwise have been wasted paid the entire cost of the betatron installation in less than six months.

Converts rejects into usable parts by locating flaws accurately for repair. Example: Hundreds of thousands of dollars' worth of parts saved because betatron inspection permits easy repair of cracks in castings

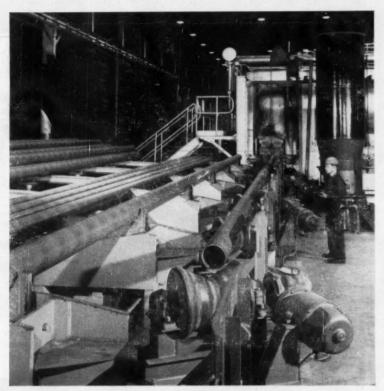
You can get complete information on how an Allis-Chalmers 22-million-volt betatron may find cost-cutting application in your plant. Call the nearest Allis-Chalmers office or write Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMER





Over-all view of new seamless tube specialties department shows pipe at beginning of automated process. Neat racks (left) are made of J&L's own tubular material. Good lighting and clean floors add to safety, efficiency.



Pipe starts on its way into heat-treating furnace that can reach 1,650° fahrenheit. Safety is considered at every point—note that heavy metal barriers have been placed between supports to prevent pipe from getting off the line.

Tempering furnace is an integral part of the new finishing facilities. Careful control of the heat-treating procedure from start to finish makes it possible to obtain excellent physical properties with low alloy materials.



PHOTO VISIT

#### **OUNCES OF PREVENTION**

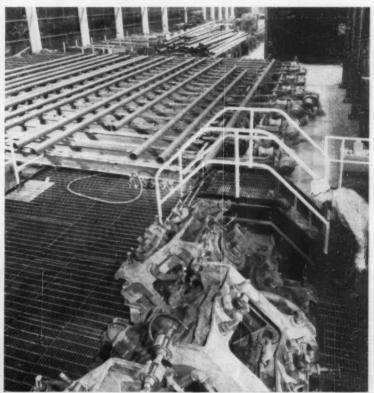
How cleanliness and safety

keep quality at a high level.

GOOD housekeeping is one of the most important factors in productivity (see page 43) and efficiency regardless of the size of a plant. At Jones & Laughlin Steel Corporation's seamless tube specialties department in Aliquippa, Pa., they have started off on the right foot. With a brand-new process for toughening and strengthening oil country tubular products, Jones & Laughlin is making sure its machines and plant will be clean and safe for some time to come. Wide aisles, neat and compact stacking of products, good lighting, safety measures, and employee education have all been taken into consideration in the planning and running of the \$4.7 million addition.

On this and the following pages the new process and a few of its more important housekeeping procedures are pictured.

Though the plant is new and the process unusual, the ideas can be adopted by almost any company.



Leaving tempering furnace, tubing is sized by a three-stand rolling mill (foreground). Safety walks and cross-overs are provided wherever necessary. Conveniently located desk (right center) simplifies the record-keeping.

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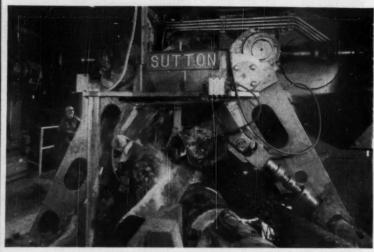
RADIO CORPORATION of AMERICA

ENGINEERING PRODUCTS DIVISION, CAMDEN, N. J.

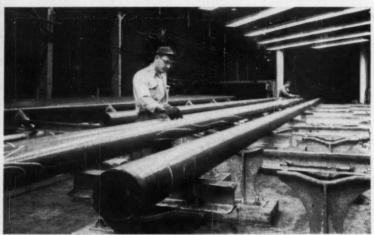
In Canada: RCA VICTOR Company Limited, Montreal

#### **OUNCES OF PREVENTION**

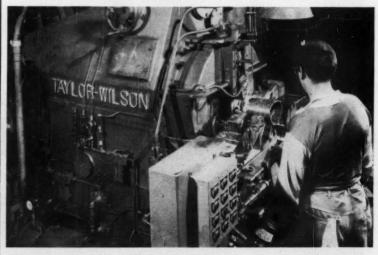
Continued



Pipe is shown here at exit end of a large rotary straightener. Specialpurpose machines such as this one are expensive and are worth the effort and time spent in keeping them clean, safe, and in good running condition.



Before trimming and threading, tubing is thoroughly inspected. Visual inspection stations are provided with special fluorescent lighting to minimize glare, make it easy for workers to spot defects. Note safety gloves.

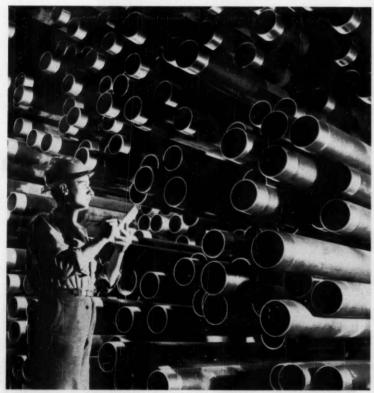


Electrical controls make the operation of this cut-off machine almost completely automatic. Here, too, safety is pointed up by wearing of safety gloves and light installed for easy vision. Machine is kept unusually clean.

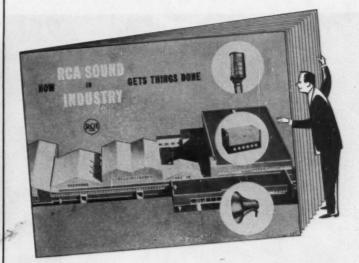
Continued



Plastic goggles make it safe as well as easy for the operator of this threading machine to keep close watch on his work. The control box indicates that this machine is also almost completely automatic in operation.



When a well-made product is ready for shipment it deserves the same protection and careful handling it had during manufacturing. J&L makes sure tubing leaves plant in good condition by providing special storage racks.



# **Better Look Into This!**



#### Sound in Industry

Just off the press-"RCA SOUND IN INDUSTRY"is packed with information of immediate value to executives in virtually every type of business. Its facts, figures and other pertinent data will enable you to evaluate sound as a time-saver, morale booster and production incentive in your particular set-up. Wouldn't you like to know more about this modern industrial "tool"? The coupon below will bring you the latest information by return mail. Get it off today.



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All Kaloric-Type 890 belts are made with a special Neoprene compound that gives the best heat resistance. Skim coats are applied between plies for insulation and extra flex-life. Extra heavy top covers of special heat resisting compound (¼" to ¾6" are not unusual) resist temperatures that would cause ordinary belt covers to harden and crack.

Kaloric-Type 890 belts are available in widths up to 72", any length, two to ten plies, with cover thickness to suit any conditions.

We also manufacture a complete line of industrial rubber products: belting, hose, packing and moulded rubber for every need. Through your Quaker and Quaker Pioneer distributor our research and engineering services are available to help you solve any industrial rubber problem. Write for free folder and name of nearest distributor.



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San Francisco 7, California

#### LETTERS to the Editor

COVERS

Evanston, Ill.

Dear Sir:

I have been very much impressed with the quality of your cover illustrations. As a matter of fact, I have, at considerable expenditure of time and colored pencils, retouched the issue showing LaSalle Street (May 1954) and have it framed in my office. . . .

Could you put the information that now spoils the picture for framing in some other area so that we could trim off just the picture itself?

Elmer F. Way

Secretary and General Manager Marking Device Association

Olean, N.Y.

Dear Sir:

Over the past year, you have had several beautiful and impressive views of New York City as covers for your publication. . . .

I would be very interested in knowing if you have a set of these pictures available which would be suitable for framing. . . .

C. L. Hinton Clark Bros. Company

COVER TO COVER

New York, N.Y.

Dear Sir:

We noticed with pleasure on the front cover of your magazine, issue of January 1955, the reproduction of a very nice color photograph of one of our harbor tugs assisting the SS United States.

May we reproduce this cover in black and white, complete, in a subsequent issue of our house magazine, *Tow Line?* 

Robert H. Munroe Public Relations Manager Moran Towing & Transportation Company, Inc.

**EXAGGERATION** 

New York, N.Y.

and

Dear Sir:

First of all I would like to congratulate you on your excellent



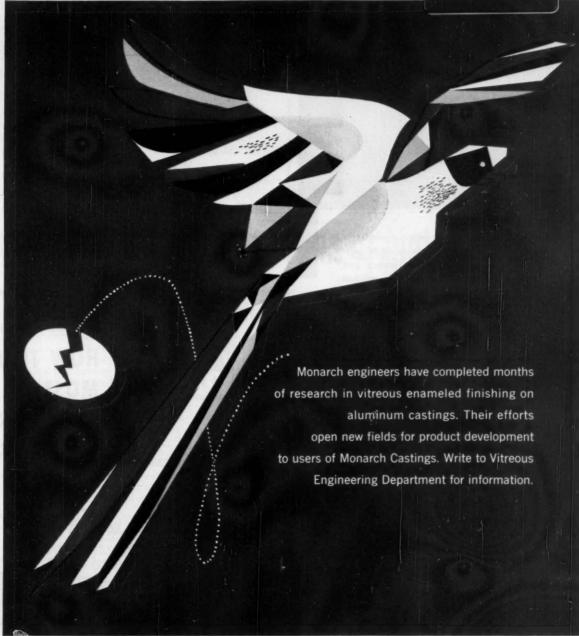
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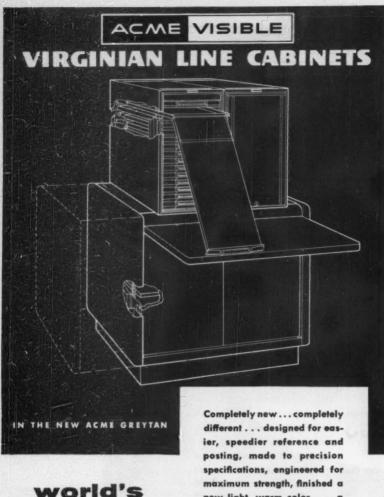
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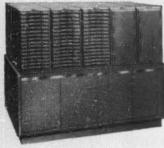
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> For more information write for illustrated brochure No. 1040.

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article entitled "Workmen's Compensation Laws to Fore as 44 State Legislatures Meet in 1955" (December 1954).

However, the statement which you made concerning the value of the soundproof booths in our Standard Audiometric Testing Rooms is very misleading since it gives the impression that each one of the soundproof booths is valued at \$12,000. Actually, the value of each booth is closer to \$1,500, rather than \$12,000 mentioned in the last but one paragraph of the article.

> Martin Hirschorn President Industrial Acoustics Company, Inc.

You are right. \$12,000 would buy all eight of the units used .- Ed.

BEAR IN MIND

Montgomery, Ala.

Dear Sir

The article, "How Foremen Get That Way," in your January issue, was read with keen interest.

Your facts were well gathered, intelligently grouped, and interestingly presented, forming a def-

inite, natural, logical, and accurate pattern. In my opinion, every question asked in it can be simply and accurately answered, if the following points are kept in mind:

An individual normally enters a vocation he is reasonably well qualified to fill.

Of the traits required of candidates to qualify them for the duties of either foreman or steward, the most important is leadership. Both management and unions look for this, consciously or unconsciously....

Since self-interest definitely tends to shape the views of all normal individuals . . . an individual usually accepts the philosophy which the team with which he is associated advocates. The three teams (Worker, Foreman, Steward) involved in your article have a common goal but different objectives. The most satisfactory solution to the problem thus created lies in getting all three to recognize that when one team is hurt, the other two are also hurt. ... Most organizational discontent stems from the lack of a clear understanding by all parties concerned regarding this fundamental truth.

Since a superior generally deter-



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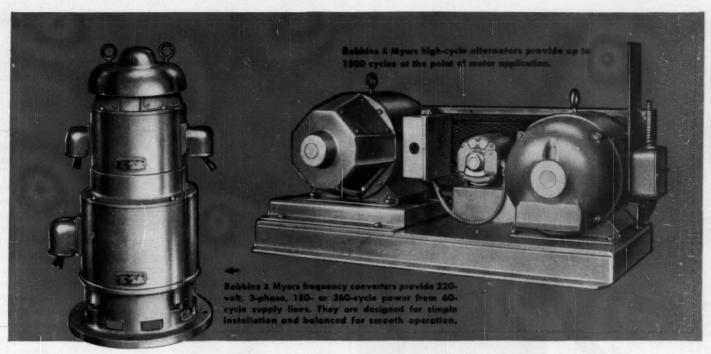
If you are seeking, not a magic formula, but a sure, sound method of speeding up your progress, "Forging Ahead In Business" may prove to be the most important book you have ever read.

Some men have found a fortune in its pages... for it has made them see, more clearly than ever before, the need for a well-organized program; and it has inspired them to act while time was still on their side.

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The applications for high-cycle motors are mounting with increased demand for high-speed routers, planers, grinders, etc., in both the wood and metal working industries. Also in portable tool design, the high-cycle motor is proving most applicable where small size, light weight and minimum maintenance are paramount.

Robbins & Myers frequency converters and alternators are convenient, economical sources of high-cycle power. They can be installed at the point of use.

#### R & M Frequency Converters

R & M frequency converters convert 60-cycle A.C. to 220-volt, 3-phase, 180or 360-cycle. These units are low in cost, high in efficiency, require negligible maintenance. They need no exciter or auxiliary equipment other than a motor

They are designed to meet unusual overload conditions. Voltage change from no-load to full-load does not exceed 8% for 180-cycle converters, and 15% for 360-cycle converters.

#### R & M Alternators

R & M alternators are high-frequency generators that provide high-frequency current within each of a number of ranges, up to 1500 cycles-beyond the range of converters. They are available from 7.5 kva, 360-500 cycles, to 2 kva, 1000-1500 cycles.

Polyphase driving motor and alternator are both in the rugged R & M "All-Weather" design, which keeps out moisture. Separate exciter unit provides direct current to the alternator field circuit. Rheostat in the exciter field circuit permits control of the alternator voltage. Pulleys may be changed to provide the frequency desired by the user, within the range of each unit.

#### R & M Motors to 125 HP

In addition, if you need a motor, whether standard or custom-designed . . . motors with special housing designs or motor parts to fit your housings . . . fractionals from 1/200th HP up-integrals to 125 HP . . . write us today. Our motor specialists do a scientific job of matching the motor to the product or application. We can make a real contribution to the solution of your problem,

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Fractional-horsepower motors and parts . . . from 1/200 HP. Integral-horsepower motors; famous R & M "All-Weather"\* with sealed bearings. Up to 125 HP.

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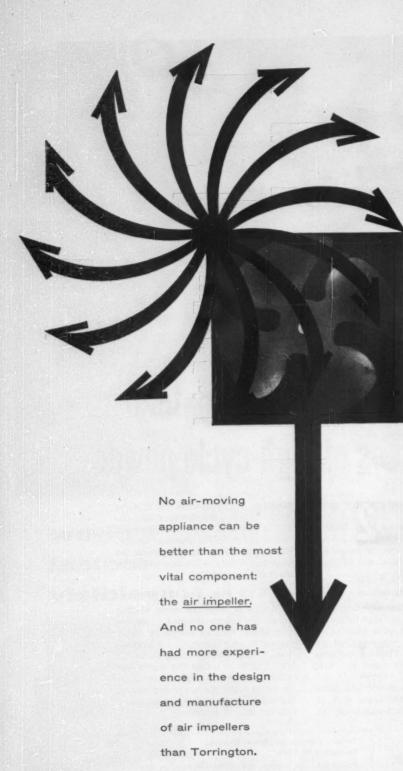








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mines a subordinate's working environment, the best control a superior has available constructively to influence a subordinate's conduct and attitude is the capability to provide that environment conducive to the subordinate's and the company's well-being.

Management can recruit foremen from the ranks of union's stewards if the steward's philosophy can be constructively altered to conform with management's philosophy.

Formen who are demoted to the status of workers can be later reinstated if they are properly handled during and after demotion and the reason for demotion was due to personnel reduction or to give additional training to the foreman.

Rush H. Pearson
Personnel Consultant

ANOTHER ANGLE

Long Island City, N.Y.

Dear Sir:

It was with a great deal of interest that we read your article, "Financial Techniques Tap New Markets" (January 1955).

We agree wholeheartedly with the conclusions in it and with the theory of expansion while conserving capital.

You speak, however, of the manufacturers' leasing and financing plans and their relationship with such firms as Commercial Credit. You have omitted to mention the fact, though, that there are independent renters who will lease any type of equipment, regardless of the manufacturer, on similar terms.

The advantages to business of being able to lease materials handling, process, production equipment, and so on, from a single source are obvious. The lessee, under this plan, also has complete freedom in being able to select the type of equipment and its manufacturer. In short, he does not have to eliminate the equipment of his choice simply because its manufacturer does not offer a lease plan.

M. Silverman National Equipment Rental, Ltd.

We excluded mention of leaserental plans which do not originate with the manufacturer, so as to keep a single frame of reference.—

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WALTER A. SCHOLL, Department DR-15

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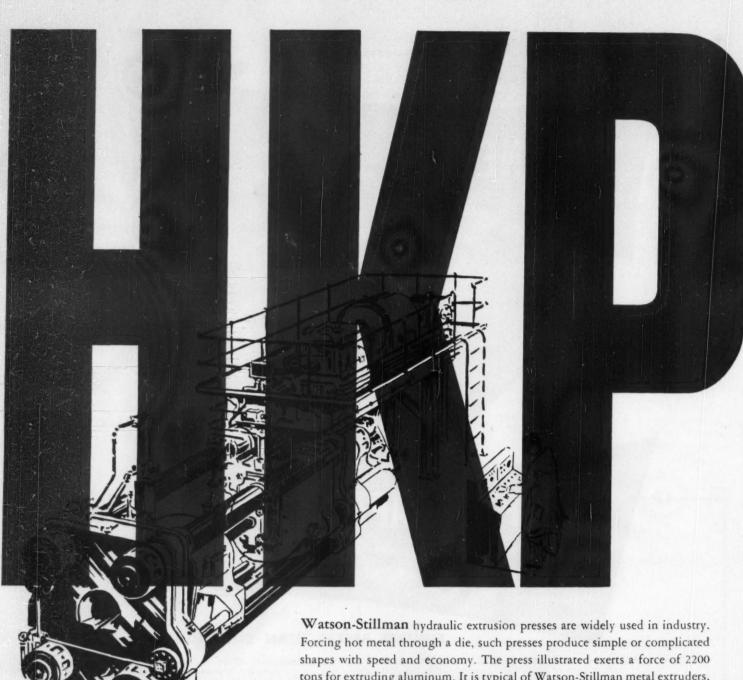


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SAN ERANCISCO—HOWE PHOTOGRAPH

- · New orders still increasing
- · Factories to bire more workers
- Fewer delays in collections
- · More new corporations than ever before
- But order backlogs below year-ago level
- February unemployment rises slightly

#### Bumps in the Road

The American automobile, resplendent with chromium and throbbing with horsepower, was symbolic of the entire economy as Winter approached its end. The 1955 model of the economy has the same shock-absorbers (monetary controls, unemployment benefits, flexible tax policy, price props, and so on) that smoothed the slight downgrade last year. The road ahead now has several possible bumps: labor disputes, international flare-ups, rigorous price competition, and economic dislocations as the result of automated processes and regional changes.

While general business is widely expected to move with a gentle rhythm in the months ahead, individual segments are apparently in for some rather strenuous testing. Can the auto industry slide down easily in the second half of the year (in keeping with seasonal patterns) or will the descent from the present heady heights be abrupt? Will many other lines, which have felt the effects of the auto boom but are not directly dependent on it, remain high in the second half? Will the construction industry maintain a high plateau or will it return to the boombust movements of other decades?

Last month there were no immediate danger signals flashing. Money remained easy though not as actively easy as in recent months. Spot surveys by Dun & Bradstreet reporters in 60 cities in 39 states pointed to continued improvement last month in retail trade, manufacturers new orders, employment, construction, collections, and other lines. Inventories were growing as international tensions and strike threats encouraged some extra buying. New orders for machine tools in January were above the level

of the prior month which had been the highest since the Fall of 1953.

#### Let Robot Do It

The recurrent theme of many labor speeches, the displacement of production wrokers by automated machines, was reflected in the growing productivity of many industries. While factories employed about 4 per cent fewer production workers in January than they did a year earlier, output was up 5 per cent from a year before.

Weekly Business Signposts

	0 .	
	Previous Week	YEAR Ago
215	215	176
89	87	72
187	183	137
991	992	855
655	644	619
90	92	86
110	110	110
824	888	756
298	297	298
205	238	215
	Week* 215 89 187 991 655 90 110 824 298	215 215 89 87 187 183 991 992 655 644 90 92 110 110 824 888 298 297

\*Steel data are for the fourth week of February; all others

Sources: Amer. Iron & Steel Inst.; Bureau of Mines; Automotive News; Edison Elec. Inst.; Assn. of Amer. Railroads; Bureau of Labor Statistics; Dun & Bradstreet, Inc.

It is generally expected that plants producing automation equipment and other improved capital goods will more than absorb the production workers displaced by automation. However, productivity in these plants is itself rising remarkably since they would have the first opportunity to use the new automated processes, of course. During the past year production workers in electrical machinery plants declined by 5 per cent while output rose a hefty 12 per cent.

The decline in the number of jobs in factories and mines which amounted to 600,000 during the past year was partly offset by new opportunities (about 250,000) in wholesale and retail trade, services, government, construction, and utilities. This may well be setting a pattern for the years ahead as incomes rise with productivity and consumers devote a larger share of spending to medical care, vacations, travel, entertainment, and Government services such as better schools and hospitals and roads. Self-employed workers have increased about 400,000 during the past year, indicating perhaps that many laid-off workers have struck out on their own.

It seems very unlikely that unemployment this year will match the high level of 4.7 million reached in February 1950 when the labor force was about four million smaller than at the present time. Even the most moderate estimates of total business activity allow for an expansion this year which would absorb about one million more workers. It is estimated that each additional \$6 billion in gross national product (a gain of \$12 billion is widely expected this year) provides about one million more jobs. Each year about 600,000 job-seekers enter the market.

Preliminary reports pointed to a slight increase in unemployment in February from the 3.3. mil-

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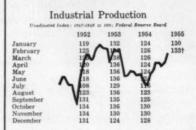
#### COMMERCIAL CREDIT COMPANY

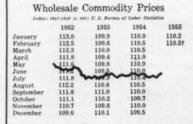
Capital and Surplus Over \$170,000,000

# The Trend of BUSINESS

lion reached in January when the rise was somewhat less than usual for that time of the year. Of the nation's 149 major labor market areas, 44 were distress areas (with substantial labor surpluses) in January compared with 48 a few months before, at the time of the previous survey. There were no areas with labor shortages, while most (90) reported moderate labor surpluses. The most severely distressed areas continued to be in the coal regions of Pennsylvania, Kentucky, and West Virginia.

Total employment probably moved upward again in February from the level of 60.2 in January when the total number of jobs topped the year-ago level for the first time since October 1953. Employers' hiring plans as reported by local public employment offices foreshadowed further gain in employment in the Spring. Lengthened payrolls are expected in a panorama of industries including plants producing cars, aircraft, steel, farm machinery, appliances, and some consumer soft goods.







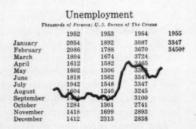
#### Unexpected Boost in Output

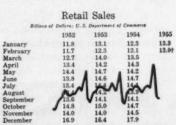
The recovery in total output which began last September was evident again last month as most factories were busier than usual for this time of the year. The index of industrial production, which is watched like a hypochondriac's blood pressure, probably moved up to 133 (1947–1949=100) in February according to preliminary information from Dun & Bradstreet reporters throughout the nation.

In January this key index had shown that about two-thirds of the ground lost during the 1953–1954 recession had been regained. To achieve a new post-World War II high, output has only to move upward six more points. But it would be most surprising if the all-time peak of 138 reached in March 1953 were surpassed this year.

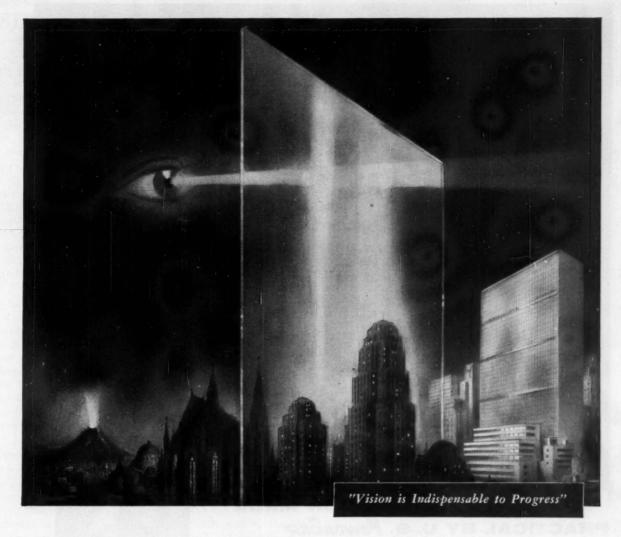
The resurgence in steel production which began last Fall continued in February as mills boosted operations more than had been expected at the turn of the year. Although weekly production in February







t Approximation: figure from quoted source not available



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What glass means to modern living is plainly evident in its glint and shine and sparkle all around us... glass in building construction, in packaging and tableware, in science and communication, in medicine and industry.

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Glass has companioned the whole progress of man, yet only in the past 100 years and particularly since 1900, have we begun to appreciate and exploit its almost limitless possibilities. Today this magic material of utility, beauty, safety and efficiency is on the threshold of its greatest era of development.

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glass, we see continuing research, improved methods of craftsmanship and manufacture achieving amazing flexibility, sensitivity and strength. By steadily widening the frontiers of service for its products, the glass industry presents a crystal-clear example of how our system of free economy leads American enterprise to higher and higher attainment on the road of progress.

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with professional results.

But just how did the "turn of a dial" make Jim a better craftsman? Because he found his Shopsmith offered him automatic speed selection-the correct speed for every job simply by dialing it on Shopsmith's exclusive Speed-Dial. United States Rubber Company's PowerGrip Timing Belt, which operates on a small pulley without slippage increases the versatility and capacity of this tool. This

belt has teeth that fit into pulleys and prevent slipping and creeping. Since it requires no lubrication and does not stretch, no maintenance is needed and

the belt can be completely housed.
U. S. PowerGrip Timing Belts are making practical the streamlining of products (where positive power transmission is important), thus increasing efficiency and sales. For example, all electrical typewriters made today use "Timing" Belts.

Perhaps PowerGrip can do a job for you. Call or write any one of our 27 district sales offices or the address below. Our engineers are at your service.

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U.S. Industry depends on it!



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# The Trend of BUSINESS

ruary had not yet returned to the all-time high-it was 8 per cent below the peak reached in March 1953 -it was at the highest level since November 1953. Output had slipped about 30 per cent during the recent business pause. The steady recovery was expected to continue during March and lift operation slightly above 90 per cent of capacity. A further rise to full operating capacity would be rather unlikely unless the Far Eastern crisis should flare into an open conflict. Much of the excess capacity represents stand-by facilities for defense needs.

With most mills booked through the second quarter and into the third, there was little indication of a possible let-down in steel operations until the second half of the year. The threat of shut-downs in autos and steel (labor contracts will be up for renewal on May 30 and June 30, respectively) and international tensions have apparently spurred steel consumers to boost their commitments.

While it is true that auto-makers have been absorbing a share of total steel output somewhat larger than the usual 20 per cent, other buyers have been noticeably active. One of the most pleasant surprises has been the revival of the export demand. Wire mills, agricultural implement makers, and oil and gas equipment producers have entered the market with vigor. Strong support has also come, of course, from the construction steel producers and the appliance makers, reflecting the de luxe boom in building.

#### Flood of New Cars

The production of new cars gained further momentum in February as weekly output reached a new all-time high and topped the year-ago level by about 50 per cent. Although most industry spokesmen look for a market of about 5.5 million new cars this year, output during January and February was at the rate of about 8 million, pointing to a considerable decline in the second half of the year unless new car buyers become more numerous.

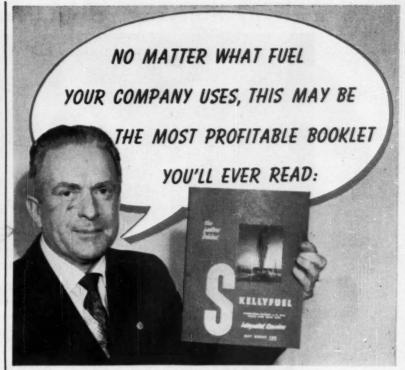
Perhaps the extra purchasing power generated by the boomlet which has spread from autos to other lines may bring unexpected shoppers to dealers' showrooms. The steady, substantial growth of suburbs, which is reflected in the unabating construction boom, should call for more cars which are an integral part of suburban living. Potential car buyers who cannot manage payments, even on the easy credit terms, which have done much to broaden the demand for cars, now have a new source of financing. The Wall Street Journal reports that some mortgage lenders -primarily savings and loan associations-will tack car purchases onto an open-end mortgage.

Despite the over-time rates for labor in most auto plants, dealers have managed to shave prices and keep sales moving, well above the year ago levels. However, cars have begun to accumulate with dealers, although the spirited consumer interest and the strike threat make the inventory growth less irritating.

The extra market for many goods which appears when inventories are allowed to grow may be one of the decisive factors this year. Stocks are still being closely watched but not with the hawk-like intensity of a year before.

Preliminary information from manufacturers, wholesalers, and retailers in 140 cities in 46 states reflected a moderate rise in inventories during January. In the beginning of that month inventories had amounted to \$76.3 billion which was down 4 per cent from a year ago. Since total business sales were up 6 per cent, buyers were certainly justified in feeling that inventories were less burdensome.

However, the backlog of manufacturers' orders at \$47.3 billion was down 19 per cent from a year ago in early January. Further rises in order backlogs occurred in steel mills, machine tool plants, and many other metal-working lines in January and February as the rise in output was outpaced by new commitments. Although the order backlog, which is almost entirely for durable goods, is down substan-



# Read the story behind the Skellyfuel LP Gas system that may pay for itself in a few years—or even a few days:

From cover to cover this new Skellyfuel book is packed with vital information your company should know. You'll learn about the Skellyfuel consulting service, and how you may have a Skellyfuel Industrial Engineer analyze your fuel needs and frankly discuss with you the economics of a Skellyfuel LP Gas system.

You'll see how the Skellyfuel Industrial Service assumes all responsibility to design—engineer—and install your propane-butane system. There are facts, too, about how Skellyfuel engineers train your operating personnel and provide continuing services.

Most important, you'll see the care that Skellyfuel takes to give you as-

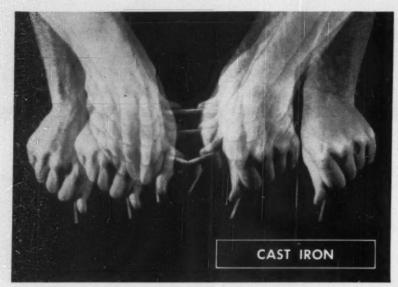
sured quality and dependable shipments. You'll read how Skelly Oil Company backs Skellyfuel with over 25 years of leadership in the industry. No wonder more and more LP Gas users are switching to Skellyfuel.

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So get the facts now! Write today for copy of the new Skellyfuel booklet.

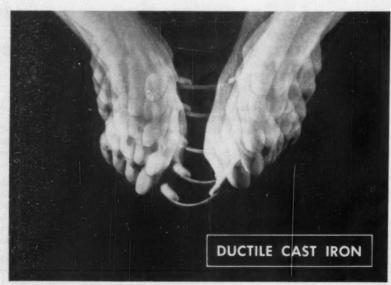




Repetitive flush photography makes it plain that plain cast iron, strong as it is, is breakable.

## **Slow-Motion Proof**

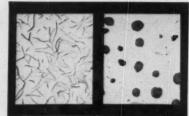
that Inco-developed Ductile Cast Iron is a cast iron with exceptional strength



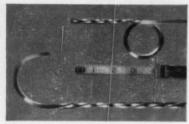
Under the watchful eye of the strobe camera, Ductile Cast Iron bends and bends. No break!



Producer of Nickel, Inco Nickel Alloys, Copper, Cobalt, Tellurium, Selenium and Platinum, Palladium and Other Precious Metals.



HERE'S THE INSIDE STORY on the difference between cast iron and Ductile Iron! In cast iron (left above), the graphite is in flake form. Making for brittleness. In Ductile Cast Iron (right), it's formed into tiny spheres. This makes for toughness and strength.



**NEW TWIST!** Once you see this difference, you understand why Ductile Cast Iron is so strong and tough. Why it can be bent and twisted without breaking.



**TODAY**, Ductile Cast Iron is a material of many varied uses. Everything from pinking shears to plowshares—washing machine gears to jet plane parts! And industry is rapidly expanding its uses of this economical cast material.

An Inco development, Ductile Cast Iron is a new material that combines the best features of cast iron and steel.

Like cast iron, Ductile Iron has good fluidity. It's easy to cast. It machines well.

Like steel, Ductile Iron is strong and tough (the picture at left proves it). Its ductility is outstanding.

With Ductile Iron, industry is cutting costs on materials, production, maintenance. Write for "Ductile Iron, the Cast Iron that Can Be Bent." Maybe this booklet can show you how this new material, greatest foundry advance in over a century, can help you cut costs. The International Nickel Company, Inc., Dept. 126d, New York 5, N. Y. @1855, T.I.N.CO.

and

# The Trend of BUSINESS

tially from the peak of \$75.7 billion in September 1952, it is still twice as large as it was in June 1950 just before the Korean clash.

#### New Retail Sales Peak

Shoppers restrained their spending slightly in February according to spot surveys of retail stores in 66 cities in 39 states. Nevertheless, the estimated volume of \$13 billion was the highest for any February on record. This would result in a yearto-year increase of 5 per cent, considerably less than the gains of 9 and 10 per cent in December and January, respectively. It was most unlikely that these very impressive increases would hold for retail trade has been outpacing personal income. Stores in the South and Southwest generally chalked up better sales gains than those in other parts. Price reductions sustained the demand for a wide variety of goods.

A further improvement in collec-

Fast? A Fostoria Radiant Oven heats at the speed of light . . . re-quires no warm-up . . . bakes out a finish in a fraction of the time re-

You save space—cut costs to the nub-improve product quality. Read the Tinnerman case history

THE FOSTORIA PRESSED STEEL CORPORATION

quired by convection ovens.

at the right.

PROBLEM:

tions last month was reflected in reports from business men in 66 cities in 39 states. While tardiness was still discernible in some lines, many companies reported that their collections were less troublesome than a vear earlier. Since retailers frequently offer easy credit terms to attract shoppers, their collections are not quite as prompt as those of manufacturers.

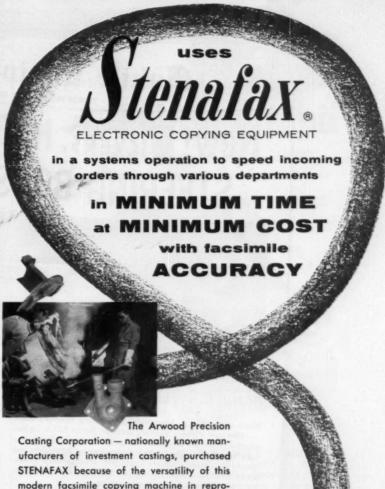
Despite the rigors of revived competition, recent months have offered a favorable climate for new busiporations in January than ever bepeak level continue, the total for the year would top the record of 132,916 chalked up in 1946 when



Vrite today for

informative booklet "How Thousands of Plants Cut Costs."

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modern facsimile copying machine in reproducing from all types of copy, including orders written in pencil or ink, typed or produced by mimeograph, offset or the hectograph process, While the mimeograph electronic cutting of stencils is their primary use, for their systems application Arwood also uses Stenafax to produce direct positive dry single copies at mini-

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HYDRAULICS FOR MOBILE EQUIPMEN

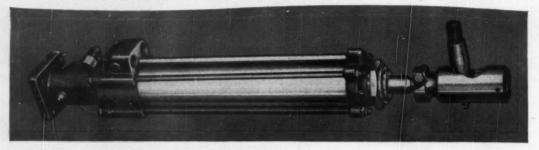
## Mobile Equipment News

IMPROVES PERFORMANCE CUTS COSTS

VOL.2

VICKERS INCORPORATED, DETROIT, MICHIGA!

# New! MICKERS. HYDRAULIC POWER STEERING BOOSTER... SERIES \$23



## LATEST DEVELOPMENT in POWER STEERING for TRUCKS, BUSES, MATERIALS HANDLING VEHICLES, ROAD CONSTRUCTION and MINING MACHINERY

More compact . . . improved in operating characteristics . . . this new Vickers Steering Booster, Series S23 is an important new development in power steering for many vehicles. Application is much easier because it requires less space . . . and ultimate costs are substantially lower. Series S23 thus opens the way to fingertip ease of steering for a wide range of additional vehicles.

Like the preceding models, Series S23 has hydraulic lock against road shock. Bumps, chuckholes, blown front tires, obstructions, etc., cannot spin the steering wheel or jerk it out of control. This is a safety factor of great importance.

Series S23 Boosters are provided either with (Model S23R) or without (Model S23N) an integral relief valve. Model S23N is used with Vickers VT16 and VT17 pumps that have integral volume control and relief valve. When the larger volume Series V200 pump is used and a volume control is required in the circuit, the S23N is used with a separate combination valve (see Series FM2 below). Model S23R is used with the Series V200 pumps that

ASK FOR NEW BULLETIN M5106

have no integral valving, for applications where a volume control is not required.

#### MORE VERSATILE INSTALLATION

In Series S23 Boosters, the servo ball stud housing is symmetrical, and can be assembled in any one of four positions. This and the compactness of the Booster makes application easier . . . increases the number of applications which can be made without major engineering changes. Series S23 Boosters can be mounted interchangeably with Models S6-277 and S6-279 Boosters.

#### REQUIRES LESS SPACE

The new booster has been reduced in size by the redesign of the servo control valve. The tube connecting the servo valve to the rod end has been relocated and is now on the same side as the fitting connection. As a result of these changes, Series S23 requires less space . . . works in closer quarters.

706

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# VICKERS VOLUME CONTROL and OVERLOAD RELIEF VALVE

veloped primarily for hydraulic power steering on trucks, buses and materials handling squipment where the pump does not include a valume control valve. The FM2 improves deering booster performance by providing it relatively constant volume of oil regardess of ongine speed variations. An integral elief valve is included.

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921



SCHOONER AT AN EAST RIVER PIER-HOWE PHOTOGRAI

# Failures .

Edging upward to 939, failures in January were the highest in seven months. Casualties were 8 per cent more numerous than in the comparable month of 1954, and heavier than in any January since 1942.

Contrasting with the rise in number of failures, the mortality rate in relation to the number of operating concerns declined. According to Dun's Failure Index, which reflects the annual rate of failure, there were 41 casualties for each 10,000 enterprises listed in the Dun & Bradstreet Reference Book. This compares with 43 in December; the index is adjusted for seasonal variations. While this casualty rate exceeded the 37 per 10,000 occurring

in January 1954, it remained well below the pre-war rate of 55 in 1940.

The liabilities of January's failures declined slightly, 6 per cent, to \$37,872,000. But with the exception of December, liabilities were the highest in seven months. While both small casualties for less than \$5,000 and large ones for \$100,000 or more were not as numerous in January as in the previous month, moderate-sized casualties in the \$5,000 to \$25,000 class increased. January liabilities were 28 per cent larger than a year ago.

Most of the uptrend in failures this January from a year ago was concentrated in wholesale trade and commercial service. Here mortality climbed 44 and 45 per cent respectively, compared with advances of 1 or 2 per cent in other functions.

Geographically, January 1955 increased moderately in most regions;

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There's no communication problem too tough for a TelAutograph Telescriber system, the only system that transmits original handwritten messages instantaneously and simultaneously to one or more points. Sending and receiving stations can be several feet or many miles apart, but each station or stations (selected by the sender) receives the exact message as it is being written!

#### WHY BUSINESSES FAIL

Classification of Causes of Business Failures, 1954

Based on Opinions of Informed Creditors and Information in Dun & Bradstreet's Credit Reports

				COMM.	
MFG.	WHOL.	RET.	CONST.	SERV.	TOTAL
3.1	4.6	4.9	4.4	3.2	4.3
0.5	1.3	1.2	1.1	0.8	1.0
2.0	2.7	2.7	2.7	1.8	2.5
0.2	0.2	0.6	0.4	0.3	0.4
0.4	0.4	0.4	0.2	0.3	0.4
2.9	6.4	2.7	1.8	3.1	3.1
-	0.2	0.1	0.1	0.2	0.1
					0.6
					0.2
					1.9
0.3	0.7	0.2	0.2	0.8	0.3
91.9	86.7	90.6	92.0	92.0	90.7
55.8	49.3	53.0	31.6	55.7	51.3
					6.9
					9.6
			0.000		8.4
					8.3
					2.5
					17.7
4.9	4.1	3.2	6.3	2.9	4.0
1.8	2.0	1.3	1.1	0.9	1.4
0.9	1.1	0.6	0.2	0.4	0.6
-					0.1
					0.1
					0.2
					0.1
0.4	0.3	0.3	0.3	0.1	0.1
0.3	0.3	0.5	0.7	0.8	0.5
	3.1 0.5 2.0 0.2 0.4 2.9  0.5 0.1 2.0 0.3 91.9 55.8 6.8 12.6 7.5 11.9 0.4 14.1 4.9  0.1 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9	3.1 4.6 0.5 1.3 2.0 2.7 0.2 0.2 0.4 0.4 2.9 6.4 0.5 1.1 0.1 0.4 2.0 4.0 0.3 0.7 91.9 86.7 55.8 49.3 6.8 4.9 12.6 16.4 7.5 11.2 11.9 3.5 0.4 0.7 14.1 16.5 4.9 0.7 14.1 16.5 15.1 16.5 16.4 0.7 16.1 16.5 17.5 11.2 18.5 0.4 0.7 19.1 16.5 19.1 0.4 0.7 19.1 0.4 0.7	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	MFG. WHOL. RET. CONST. SERV.   3.1

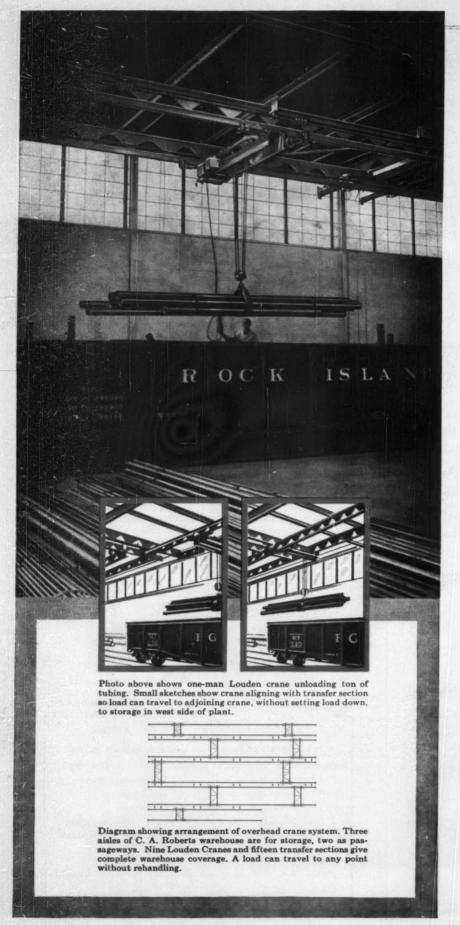
While the percentages in the broad categories of apparent causes of failures (Neglect, Fraud, Inexperience, and so on) add to 100 per cent, the sum of the specific causes may exceed the total for the category because some failures are attributed to a combination of specific causes.

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Production Control	Central Files
☐ Materials Control	Announcing
☐ Quality Control	☐ Without obligation please
☐ Job Costs & Accounting	have a systems analyst call
Name	
Street	***************************************
City	State
Company	Title



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Again Louden engineered handling shows how it can save space, reduce handling and increase production

Over and over again experience shows you can't buy efficient, speedy, economical materials handling "across the counter." Right handling is tailored to your needs. Here is an example. The C. A. Roberts Company, "Steel Tube Specialists" of Franklin Park, Illinois, warehouses steel tubing of every size and length. In its old building, this company had overhead handling but neither integrated nor complete. Excessive rehandling and delay resulted; the company had to maintain a handling force up to 6 men. In laying out its new building, a Louden representative planned and delivered an integrated handling system able to cover every inch of floor space. "We can move north, south, east or west in our building with Louden equipment, which definitely means more storage space, less handling of tubing and an increase in production." Two officials estimate production can be increased up to 100%, loading-unloading time cut 50%, and every bit of floor space utilized. Of all the suppliers checked, only Louden could furnish the bridging system that enables them to move tubing from wall to wall with one crane.

Here is the essence of Louden overhead handling . . . engineering, experience and equipment capable of turning to greatest account the inherent and fundamental advantages of overhead handling. At the very least you should find out what the best engineering recommends.



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JASPER, INDIANA · U.S.A.
OUR SOTH YEAR OF SÉRVING AMERICAN BUSINESS

the New England toll was the heaviest in over two years, and the Middle Atlantic toll reached a ninemonth high.

The number of concerns failing in the 25 largest cities edged up 4 per cent from December while they rose 1 per cent in the balance of the country. Boston and San Francisco reported marked increases from the previous month and a year ago.

FAILURES BY DIVISIONS OF INDUSTRY

	-Numl			
(Current liabilities in millions of dollars)		Jan. 1954	Jan. 1955	Jan. 1954
MINING, MANUFACTURING	195	192	11.6	11.4
Mining-Coal, Oil, Misc	4	4	0.2	0.4
Food and Kindred Products.		19	1.1	2.3
Textile Products, Apparel		53	2.4	2.0 0.9
Lumber, Lumber Products		21	0.8	0.5
Paper, Printing, Publishing Chemicals, Allied Products	. 14	9	0.7	0.5
Leather, Leather Products		9	0.6	1.3
Stone, Clay, Glass Products		3	0.3	0.1
Iron, Steel, and Products		10	1.4	0.8
Machinery		13	1.5	0.6
Transportation Equipment	6	3	0.5	0.2
Miscellaneous	34	31	1.5	1.9
WHOLESALE TRADE		79	4.4	3.2
Food and Farm Products		20	1.0	0.6
Apparel	5	5	0.1	0.0
Dry Goods	5	2	0.2	0.2
Lumber, Bldg. Mats., Hdwre.		5	0.4	0.1
Chemicals and Drugs		4	0.1	0.3
Motor Vehicles, Equipment. Miscellaneous		37	2.4	1.9
RETAIL TRADE	456	450	9.6	8.6
Food and Liquor	. 83	71	1.6	0.8
General Merchandise	19	19	0.7	0.5
Apparel and Accessories		82	1.8	1.6
Furniture, Furnishings		78	1.5	1.8
Lumber, Bldg. Mats., Hdwre.		22	0.6	0.7
Automotive Group		52	0.9	1.2
Eating, Drinking Places	68	70	1.2	1.4
Drug Stores		10	0.2	0.2
Miscellaneous	. 63	46	1.2	0.6
Construction	87	86	9.0	3.2
General Bldg. Contractors	26	23	5.7	1.0
Building Subcontractors	56	55	2.8	1.7
Other Contractors	5	8	0.5	0.4
COMMERCIAL SERVICE	87	60	3.2	3.1
TOTAL UNITED STATES	939	867	37.9	29.6
Liabilities are rounded to t	he nea	rest m	illion	they

Liabilities are rounded to the nearest million; the do not necessarily add to totals.

#### THE FAILURE RECORD

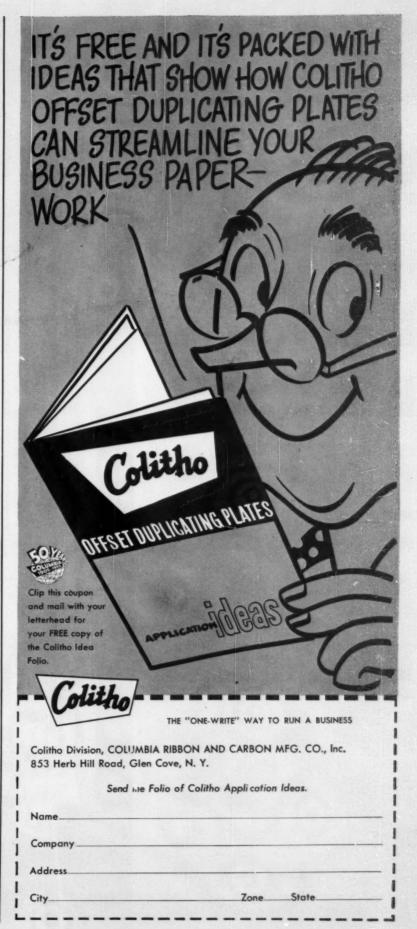
Jan. Dec. Jan. P.C. 1955 1954 1954 Chg.t

Dun's FAILURE INDEX* Unadjusted Adjusted, seasonally	42.9 40.9	40.3 42.9		+ 9 +11
NUMBER OF FAILURES.	939	917	867	+ 8
NUMBER OF PAILURES.	232	211	007	1.0
NUMBER BY SIZE OF DE	вт			
Under \$5,000	133	152	134	- 1
\$5,000-\$25,000	484	437	427	+13
\$25,000-\$100,000	256	250	249	+ 3
\$100,000 and over	66	78	57	+16
NUMBER BY INDUSTRY C	ROUPS			
Manufacturing	195	204	192	+ 2
Wholesale Trade	114	98	79	+44
Retail Trade	456	413	450	+1
Construction	87	130	86	+1
Commercial Service.	87	72	60	+45
LIABILITIES	es (in thousands)			
CURRENTS	37,872 5	\$40,103 \$	29,592	+28
TOTAL	39,000	40,925	29,906	+30

\*Apparent annual failures per 10,000 listed enterprises, formerly called Dun's Insolvence Index. †Per cent change, January 1955 from January 1954.

Business Failures include those businesses that ceased operations following assignment or bankruptcy; ceased with loss to creditors after such actions as execution, foreclosure, or attachment; voluntarily withdrew leaving unpaid obligations; were involved in court actions such as receivership, reorganization, or arrangement; or voluntarily compromised with creditors out of court.

Current Liabilities, as used in the Failure Record, have a special meaning; they include all accounts and notes payable and all obligations, whether in secured form or not, known to be held by banks, officers, affiliated companies, supplying companies, or the Government. They do not include long-term, publicly held obligations. Offsetting assets are not taken into account.







HERE are many factors, personalities, and groups to be considered and consulted when purchasing another company or plant. Here is a discussion by an authority in the field regarding the reasons why it is advantageous to buy or sell and what must be done in order to bring the transaction to a satisfactory conclusion.

# HOW TO BUY A COMPANY

JOHN C. BEST

Vice-President, National Gypsum Company

OU ARE a business man responsible for running a vigorous organization and you want to expand. Maybe you think that buying an established plant is your answer. How do you go about it?

The question may seem elementary, but in my experience at least it has proved not to be.

A business to-day is a complex and unpredictable organism. There is an infinite variety of reasons why some prosper and multiply, and why others die, by selling out or by going under or otherwise losing their corporate identity.

For any business man interested in expanding his capacity or his product lines through purchase of an established plant, it is important to be able to diagnose just when a company is ripe to sell—when, although apparently healthy, there are sound reasons for a change.

The symptoms are not obvious, and the prospects—profitable ones—are hard to find. At the National Gypsum Company we have an average of one company a day offered to us for purchase—"merger" in the diplomatic vernacular of business—by brokers, banks, and investment houses. Not once have we bought a plant which came to our attention through these sources.

Finding these prospects is a job that we have had to do pretty much on our own. There are

certain obvious indicators and yardsticks to help guide you, but there is still a certain amount of playing by ear.

Since 1937, when the company of which I was then president was taken over by National Gypsum, I've had the privilege and the excitement of negotiating the "merger" of 20 plants for National Gypsum. These have been mostly in the \$2 to \$5 million class, although some few went as high as \$10 million. And for each successful negotiation there are a dozen which don't go through.

Some points of this experience may be useful to a business man confronted with the problem of how to buy a plant.

The first step, of course, is to analyze carefully your own reasons for wanting to buy established manufacturing facilities. Your own special requirements will pretty much dictate the type of plant you want to buy, its product line, its location, and the terms under which you will buy it.

You can obviously have any number of reasons why you want to buy a plant. Here, in no particular order, are some of the commonest ones:

1. To insure your supply of basic materials—to guarantee the quality and service you think

you need. For example, one of our principal products is gypsum board—gypsum sandwiched between sheets of a special heavy paper. We had difficulty getting the quality and tonnage of paper we needed, so we decided to buy some paper mills and make our own. The savings have been enormous. We also bought our own freighters to bring down gypsum rock from our Nova Scotia quarries to our Eastern seaboard plants. These are just a few steps in our program of vertical integration.

2. To achieve uniformity in your selling pattern. You may buy a plant to fill in gaps in your product line, in order to take maximum advantage of your national advertising (not to waste it in an area where you can't supply the product because freight rates or warehousing costs make the price prohibitive or non-competitive). We are set now so that each of our 23 sales offices can sell our *complete line* of building products. Thereby we waste none of our national advertising.

3. To supplement present product lines with additional products which fit in logically with your present product pattern. You might call this horizontal integration. For example, recently we added paint to our selection of building materials. This was a logical addition—it

conformed to our philosophy of expanding only in lines which fit comfortably into our sales program. Any new product must be consistent with the operations of our national sales force. If we can increase the selection of products which the same salesmen can market conveniently we are obviously making more efficient use of the sales force.

On this count, incidentally, about 90 per cent of prospective plant purchases are ruled out. Their lines may involve a type of selling with which we are not familiar, or equipped for. Products such as concrete block, sand and gravel, or storm doors and screening, all of which are undeniably building materials, still involve either localized, or almost door-to-door selling. Some products are too heavy to be shipped any distance economically; others (storm doors) require specialized servicing—therefore they can't be handled efficiently by a national dealer sales organization. So we don't handle them.

4. By diversifying your product lines obviously you broaden your base and become less vulnerable to cyclical factors in the economy.

5. To acquire the management skills of the company you buy.

6. To place yourself in a better competitive position with respect to a market—where a favorable plant location will overcome problems of prohibitively high freight rates, high warehousing costs, and so forth.

7. The possible effect on competition must be considered. It is a delicate point in that approval of the merger may depend on the approval of the Department of Justice.

8. To gain tax advantages in addition to increased productive capacity, that is, a tax loss carry-over. In our own case, this has never been a factor.

9. The expansionist psychology—expanding for the sake of expanding. We don't believe in this, and I doubt that it's ever a sound business practise, but undoubtedly there have been instances where a company has added plants out of the sheer joy of empire building.

So much for the reasons why you may want to buy a plant. Whatever the reason—it will strongly influence the conditions under which you buy. And although the reasons may vary greatly, there is one inflexible rule you must observe if you are accountable to stockholders. In buying a company you cannot risk diluting the stock of your own company. You must expect to realize at least as much per share from the new acquisition as your present earnings. This, of course, after figuring all the cost-cutting angles—elimination of waste, selling the newly acquired production through your own sales force instead of brokers, and so forth.

Rule number two—with us anyway: Don't buy a plant or a product line which doesn't represent a substantial capital investment. That way you're likely to avoid a lot of fly-by-night competition. The new acquisition otherwise could be more of a nuisance than it's worth.

## Why Should They Sell

Now what is it that persuades an established, solvent company to sell? The reasons are many, and the signs are important to recognize for the prospective buyer seeking a profitable deal.

1. A one-line company serving a multiline market may be a likely candidate for purchase. The greatest cost and risk of running a company to-day is not in production, but in marketing and distribution. A single-line company may not be able to support a costly sales organization. And these days the buyer of products, particularly in the building materials field, is inclined to buy an integrated line; a variety of related products made by one manufacturer on whom he can place the entire responsibility for quality and performance. Naturally the dealer will stock the integrated line rather than take on the confusion of a lot of individual products sold to him. by a lot of different salesmen representing a lot of different companies.

Briefly, it's often too expensive today for a company to sell a single product with a national sales organization.

2. Family businesses. A family-controlled business with no capable or interested offspring to carry it on will probably be amenable to selling. Also, a family controlling a single-line business may recognize the need to diversify—but not

want to. All the fun and serenity of running a comfortable, old family enterprise would be gone. They'd be getting into an entirely different type of competition. They deliberately want to keep it small. Since they can't and still survive, they sell out.

3. Taxes are often a considerable factor in persuading a company to sell out. Exorbitant inheritance taxes in the event of the owner's death might sink the company anyway unless he sells out before he dies.

4. The complexity of business often discourages the family owners or managements of small businesses. This is not particularly hard to understand. Frequently the management seems to be doing just about everything but creating a product. At National Gypsum we have over 20 different types of payroll deductions and pay taxes to 302 different taxing authorities. Labor problems help add to the confusion and discouragement.

5. Quick-profit psychology on the part of the management. Certain managements have a reputation for turning a fast buck and getting out. Occasionally you can persuade this type of management to sell out to you under circumstances that are mutually profitable.

This is not by any means a complete fever chart of a company about to sell out—but the reasons given will help to point you in the right direction.

Now assume that you have surveyed the industry in which you want to buy, that you have ruled out companies too big and too small, that you have analyzed the equipment of prospective plants and assayed the locations, freight rates, competitive situation, and so forth.

Eventually you find a plant or company that seems to measure up to your needs in most respects, and you are ready to move in. You can practically always make the direct approach to their top management without any difficulty.

When you first talk to a prospect, it is imperative that you create in his mind a feeling of confidence in the company that you represent, and in yourself as negotiator for your company. There are many ways in which you can do this

Continued on page 104



# HOW CAN TRADE ASSOCIATIONS AVOID ANTI-TRUST HAZARDS?

WALTER MITCHELL, Jr.

Trade association activity is an important adjunct of business. By becoming a member of a trade association a company automatically comes under the scrutiny of the Department of Justice and the Federal Trade Commission. This may sound dangerous, but it doesn't have to be. How to do the right things in the right way and avoid possible pitfalls is the theme under discussion here.

M ANY business men are familiar with the social problem that lies behind the Sherman Anti-Trust Law and related legislation, and they are aware that Government disciplinary action is being brought continually against violators. Yet each is likely to consider the Anti-Trust Law as something distant and foreign to his operation.

For that small minority of business men who have been named defendants—along with their trade associations—the Anti-Trust Law is a very real and troublesome thing. Although that minority is small, percentagewise, it is big enough in numbers so that every executive has heard some stories about the complications and expense of defending such action, or the difficulties of operating under the decree that may result from mutual consent or judicial decision.

"Can this happen to me?" is a natural question. Your attorney will tell you that it could happen to you if you are a member of a trade association, but that otherwise such trouble is extremely unlikely unless you have adopted flagrantly unfair practises intended to restrain or damage the business of a competitor.

Does this mean that you should resign from your trade association or refrain from joining it? Decidedly no, in 98 cases out of 100. Perhaps in 2 per cent of the cases the association's activities include efforts to fix prices, discourage new competition, or develop other illegal restraints of trade. As a member of the association or the

industry, you already know or can easily find out about such activity. Certainly you remain a member of a price-fixing organization at your own risk and peril. The risk is considerable and rather futile from what I have learned in 20 years of working closely with trade associations. For example, very few attempted conspiracies have ever succeeded in raising, or even holding, prices. Many manufacturers have seen or heard such an effort fall apart. Such a fiasco occurred very recently at a luncheon meeting in a New York club.

The important part of the picture is the 98 per cent (admittedly an estimate) of associations who are carrying on programs completely legal in character, and in almost every instance highly beneficial to the members. Refraining from trade association membership because of the small Anti-Trust hazard in these cases, would be a little like avoiding automobile transportation because people occasionally are killed in automobile accidents.

However, any business man, in his dealings with his competitors, whether through a trade association or in informal contact, can minimize his hazard of Anti-Trust violation. The basis for keeping out of trouble does not require you to become a lawyer. In fact it may help you to appraise and temper the judgments of your legal advisers in some instances. Legal counsel has been known to pull a corporation out of a trade association because of a rather remote chance

of Anti-Trust trouble, without giving careful consideration to the relative advantages of membership and the certain loss to the corporation by its withdrawal.

This discussion is properly and intentionally directed to business executives—the members of trade associations—rather than to the salaried executives of the associations, because you are the people that need the information. Review of actions by the Department of Justice and the Federal 'Trade Commission against trade associations—and they usually name specifically a goodly batch of members of the association in the complaint or indictment—shows that it is usually the member and seldom the association executive who initiated or advocated the activity that caused the trouble.

For example, price-fixing efforts commonly originate with association members who are beset with the cut-throat price competition in their industry and are worried by shrinking profits or swelling losses. Much more innocently, many legal association activities have been thrown into a wrong perspective by public pronouncements and accidently misleading correspondence between association members, making the proper activity appear illegal.

In fact it is marvelous to behold how a group of business men organized as a trade association can get into trouble by doing the right thing the wrong way. Careful study of the complaints issued by the Federal Trade Commission would probably reveal that several times as much blame has been distributed as was ever deserved. Convictions, cease and desist orders, and consent decrees are, of course, no proper indication of the amount of blame that was deserved. Conversely, neither the record of cases dropped by the Government, nor those won by the forces of business in hearings and trials, indicate the damage suffered by the innocent.

Continued on page 118

# Management Self-Audit for Smaller Companies

Faced with economic death or decay, many a company calls on management consultants—the doctors of the industrial world—to perform a complicated reorganization that might have been avoided by a modest amount of preventive care. Here a consultant who has helped save several companies from early graves tells how their managements could have done the job themselves, if they'd been forehanded.

# 7 M's of a Successful Business

MONEY.....sufficient operating cash
MANAGEMENT....sound leadership
MERCHANDISE....a salable product
MEN....co-operative workforce
MARKET....good distribution
MACHINERY...adequate facilities
MARGIN....normal or better profit

## ALFRED G. LARKE

Employer Relations Editor

INACCURATE though the weatherman may be, storms seldom arrive without warning; and a company seldom stares failure in the face, except at the end of a long road well marked with signals of distress.

The day when operating cash is incontestably inadequate to operate with, or when cancellation of a big order or threat of a big strike brings things to a head, may always seem to come suddenly, almost unannounced. But even the management that feels its hopes have been betrayed by some hostile element can usually go back along the route—after the fact—and discover warning signs it had failed to take gravely at the time.

Why the company found itself in the hole it is in seems only of academic interest to its owners and its managers. They're more interested in how to get out.

The business community as a whole is very interested in knowing what shoal the ship foundered upon; it wants to place a buoy to warn off future travellers in those industrial seas. Did management figure that friendship or prestige would get it by, though quality was declining, prices weren't competitive, selling was sluggish, or delivery was inadequate?

Were executives coasting on predecessors' reputations or relying on relatives to save them? Was supervision taken as a necessary evil and allowed to stagnate? Were employees taken for granted and permitted—or forced—to take up attitudes of hostility? Was Topsy the patron saint of the organization chart? Did management place too much confidence in prayer and too little in charting its objectives? Was what satisfied granddad—in product, plant, performance, and procedures—allowed to become the

goal of his grandsons in present-day operations?

Quit asking questions and help get us out of this mess, is likely to be the management's plea; we'll never do it again. And, indeed, they probably won't. For, if the company doesn't go bankrupt—if it's one of the lucky ones not too far gone for resuscitation—it will call in the doctors and be reorganized.

Reorganization is usually very hard on past managements.

Desire to succeed is common, among managements that run into trouble as well as among those that succeed. Desire breeds hope, hope sometimes engenders blindness. How to avoid it?

#### Prevention and Cure

The really big companies usually keep enough industrial medicine men in attendance so that they're able to get an impartial outsider's view of what they're doing often enough to remain realistic. Too often the medium and small plant can't afford expert care until it is *in extremis*. As rigor mortis is about to set in, the owners cry, "Doc, save us!" And, amazingly, the management consultants often do.

As a matter of fact, probably a much higher percentage of the work of management consultants is *preventive* than is that of their physical cousins, the medical doctors.

Nevertheless, many of them have experience in curing industrial illnesses, too. One of these is Joseph H. Quick, who is currently senior partner in The Work Factor Company, as well as president of a totally unrelated concern manufacturing specialized electronic equipment.

But Joseph Quick and another partner have ventured into a new kind of activity that might be labelled "Presidents-for-Hire." Quick, as head of the electronics company, is in the presidency of the second corporation he has been asked to reorganize. Another partner is president of the subsidiary of a large corporation. He launched the new enterprise and remains as president pending mutual agreement that the concern is on its feet and can go it alone.

While this may be an unusual approach to the solution of company organization problems, it is an example of one method that may have some unique advantages.

Chosen by worried stockholders, they are men who frankly occupy the driver's seat only because it is the best position from which to drive, and they get out when they and their clients think the companies are back on the road to growth, stability, and profits again.

Quick, a tense but talkative man of 40-plus-afew (no subject is too picayune for him to try to pick information about it from the brains of anyone he speaks with), no doubt likes reorganizations, or God would not have given him so many to handle.

Yet his strongest advice to a company not in the process of reorganization, is simply this: "The best reorganization program is the one which begins before real trouble sets in and finishes before anyone outside the company knows about it."

"Even if your company hasn't reached the failing stage," he says further, "and even if it appears to be in good condition, make a periodic audit of its condition."

The market for free advice being what it is and always has been, he is probably risking very little in telling companies how to keep the doctor from the door. But the management looking for a bargain may find good advice in his suggestions. A self-audit is better than none.

Growth, stability, and profit are necessary to the success of a company, Quick says. To achieve these, there are seven prerequisites: a salable product, good distribution, sound leadership, a co-operative workforce, sufficient operating cash, adequate facilities, and a normal or better margin of profit.

Many businesses have survived a long time without measuring up in all these respects, he admits. But in such a case he's convinced that some factors are available in overabundance and are working overtime to offset the deficiencies—which is risky and creates instability—or the business is actually in the process of failing.

To determine just how a company stands,

Quick and his partners have found some 120 separate functions the organization must perform properly if it is to succeed.

Of the total list, the thirteen contained in the tables below—eight bearing on *internal* symptoms of failure and five on *external* symptoms—are the key factors.

The tables indicate the conditions found in three companies into which Quick and his colleagues were called to put their houses in order.

All three companies showed up very poorly on the checklist of external symptoms—little or no profit, few or no dividends, inadequate operating cash, product poor in quality or salability, growth erratic or declining.

Most significant weakness among the internal factors was in the quality of top leadership. This

kind of inadequacy showed up in sloppy organizational structure, low operating efficiency, sketchy or non-existent plans for the future, and self-delusion as to business outlook. Even the companies that had good backlogs—on paper—were losing old orders faster than new sales could be made, because of poor product and poor delivery.

Weakness in one factor had its effect on other factors. Two companies, for instance, had new products in design, but poor planning, lack of administrative follow-up, and possibly the absence of clear-cut lines of authority and responsibility, kept delaying development and introduction of the new products.

Again, a tendency to plan survival from day to day had produced expectation of failure

# How three companies stacked up

I INTERNAL SYMPTOMS OF FAILURE	COMPANY A—Subsidiary of large electronics com- pany (2,000 employees)	COMPANY B—Small sporting arms company (600 employees)	COMPANY C—Appliance company (900 employees)
1. Executive Staff	Extremely weak, no top lead- ership	Some good executives; no top leadership	Extremely weak, no top lead- ership
2. Supervisory Personnel	75% good, 25% inadequate	75% good, 25% inadequate	25% good, 75% inadequate
3. Labor Force	Good, co-operative	Good, unco-operative	Fair, co-operative
4. Organization Structure (lines of authority and responsibility)	Satisfactory, some gaps	Poorly defined, many gaps	Poorly defined, many gaps
5. Company Objectives (plans for growth, for new business, products facilities)	Some plans, but weak and haphazard	No plans at all for growth	Some plans, but weak and haphazard
6. Plant and Facilities	Satisfactory	Poor	Satisfactory
7. Operating Efficiency (quality controls, delivery, cost controls, methods, etc.)	Poor	Poor	Very bad
8. Business Backlog (contracts, firm sales, forecasts, open orders)	Substantial but vanishing because of non-delivery of past orders	Small, insecure, poor deliv- ery, quality, obsolescence	Fair, but vanishing, lack of sales effort, obsolescence
II EXTERNAL SYMPTOMS OF FAILURE	COMPANY A	COMPANY B	COMPANY C
1. Profits, 5 years preceding reorganization	Net loss \$1.5 million	Less than 2% on sales before taxes	Less than 2% on sales before taxes
2. Dividends Paid, 5 preceding years	No profits to parent	None	Insignificant
3. Cash	Exhausted, needed new money	Seriously inadequate	Inadequate
Product	Not proprietary, only fair quality	Obsolete, poor quality	Obsolete, excellent quality
5. Growth—Sales, 5 preceding years	Steady decline	Steady decline	Fluctuated acutely

among the employees of one company. Part of the operating inefficiency could be traced to this kind of demoralization.

At a certain point, Quick finds, the atmosphere of failure begins to feed itself and increase at a geometric rate. When the organization at large begins to sense things are going wrong, some executives who should be giving leadership tend to withdraw into their own specialties. As if to build up a safe record to cite when the expected crash occurs, the production man, for example, may ostentatiously ignore a bad sales situation instead of concerning himself with the grave company-wide implications of the sales picture.

With serious defects in the internal set-up of three companies, there is little reason for surprise that the external items shown on Quick's list are all negative, also. Lack of profit record explains why there were no dividends in the cases cited, and the inadequacy of operating cash was a natural corollary.

Lack of ample money has an interacting effect. It creates further inefficiency and this tends to reduce resources still more by reducing profit possibilities.

Even so, where the owners wish to rehabilitate the company, it is usually possible to raise the needed extra cash in fairly short order. What cannot be done so rapidly is to reestablish the product that has slipped from popular demand because of obsolescence, inferior quality, or high cost. More time is needed for that.

At the risk of belaboring a platitude, Quick goes out of his way to prove that there's more than a 9 A.M. rah-rah pitch for vacuum-cleaner salesmen in the old saying, "Man must either go forward or go backward; he can't stand still."

"The reasoning behind this statement," he says, "is this—each act of good performance builds good will and satisfied customers, and creates potential new customers.

"The expanding process begets even more customers, hence requires growth. Turning away customers creates dissatisfaction and opens the way for competitors who are willing to expand, thus starting a reaction of shrinkage."

To reorganize, Quick makes these suggestions (summarized at right):

• Establish a clear understanding of objectives with owners or controlling stockholders. Investments may be needed for research, advertising, facilities which won't pay off for some time. If the owners don't agree on a realistic plan for growth and stability, funds won't be available, no program will be possible.

• But, if there isn't a long-term future for the company, don't make long-range plans. Probing the future is difficult—but important. Market analysis, condition of the industry, customer reaction, company survival through poor past managements, detailed study of the histories of competing companies will be revealing.

• Estimate growth potential, cash needs, time needed for reorganization. In the three companies cited on page 45, it took three years to

DUN'S REVIEW

Executive check chart

# BE YOUR OWN REORGANIZER-

1. Do you have a clear understanding as to objectives with the owners or controlling stockholders? (Establish the long-range growth and stability concept.)	
2. Are you sure there is a place in the business world for the company about to be organized? (If there isn't a long-term future, don't tackle it on a long-term basis.)	A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
3. Have you analyzed the company's condition in these three major respects:  Growth potential?	
New cash requirements, if any?	
Length of time it will take to do the reorganizing job?	
4. Are you fixing first things first? (Avoid tackling too many problems at once. Plug up the big holes as fast as you can.)	
5. Have you made arrangements to man the executive staff properly as soon as possible? (Get the best talent the operation can afford. Make the key men interested in the company's future.)	
6. Are you proceeding to strengthen the deficient factors in the order of their importance to the program and commensurate with cost and cash considerations?	
7. Have you set up a program to review and fix the deficient factors? (The problems are usually not obscure; if you can't do it yourself, get people who can; they are available. An outsider's view is apt to be impartial.)	
8. Even if your company hasn't reached the failing stage, and even if it appears to be in good condition, do you make a periodic audit of company conditions?	
9. Are you sure you have a product the customer wants or needs with good quality in its price class? (This is often hard to do when reorganizing, because time and money are scarce. It's the best insurance, however, for a healthy business backlog.)	
10. Have you kept in mind that the growth of a company depends on its sales, and sales depend on customers? (Dependability and service keep the customer sold, after advertising and promotion make him buy.)	

get the spadework done, a fourth year to complete reorganization about 95 per cent.

• Establish priorities for the jobs to be done and tackle the important ones first. Lack of cash, labor relations, customer problems are apt to need attention first. Money saved in early stages will win owner confidence, help pay for longrange improvements.

• Try to use existing personnel. As you try them out, you will find which ones may be delegated authority and can then help you take on more tasks at a time. See that avenues are opened up for future advancement. Money invested in good executives is the best investment possible. And everything you have learned about handling people well goes double in a critical period like this: your executives will be unusually nervous, sensitive. Give every man a thorough chance before deciding to take the step of removing and replacing him.

• Operating efficiency usually requires early attention in a business that is slipping. Excess personnel, poor buying practises, careless com-

mitments are among the typical causes. Require those responsible to know all the details of their part of the enterprise and to be able to answer any "Why?" you can throw at them.

• There aren't many obscure business problems to-day, but it's a rare man who knows how to meet all of them. If you or your executives can't handle a problem, get an outside consultant who can

• A failing company is *always* in a buyer's market. More than normally—if that's possible—the customer is king, and must be given a product he wants with good quality in its price class. Overscrupulous quality control is safer in this period.

• Remember that advertising and promotion can "sell" the customer, but dependability and service are needed to keep him sold. And a customer once lost is harder to resell than he was to sell in the first place. Poor delivery, unkept promises, gradually obsolescing products, diminishing quality burn up the good money you spent on selling.

# More productivity. FOR PENNIES

Anxious to increase efficiency, but hampered by a tight budget? Here's how to get around the problem.

ANNESTA R. GARDNER

Industrial Editor

A TOOTHPICK, a tote box, a few magnets, and some pigeonholes are bringing remarkable increases in productivity to manufacturers of office machines, wood products, chemicals, and electronic equipment. They prove it's possible to try out new ideas for processing and distribution, and increase over-all yield, without spending a lot of money to do it.

Gadgets aren't everything, of course. They don't take the place of a planned program of time-study and methods improvement. But they can pave the way for those programs-and help make them more effective.

For instance, a home-made, work-holding device that frees the operator's hands for simultaneous use may turn an apparently unattainable standard into an easily reached goal. Fixtures of this kind can be built of wood or steel channels at negligible cost, and they may make it possible to balance a production or assembly line without adding extra operators, or to meet delivery schedules without profit-stealing overtime.

Small permanent magnets make excellent work-holding fixtures for milling, drilling, and other machine operations.

Big, bulky parts become easy to handle when

mounted on caster-equipped flats or lifted to roller or caster-topped feed tables.

Ordinary suction cups can be used to separate metal, plastic, or even paper sheets for individual feeding to presses.

Many productivity increases can be attained just by studying each operation to find the best method, and then making sure that supervisors understand and are willing to support the new system, and that operators are fully and properly trained to use it.

Training is particularly important. But train-Continued on page 46



Pigeonholes and careful placement of work centers bring many of automation's benefits to Voicewriter production without the costs it might entail.

# Pass-along for profit

"Manual automation," Thomas A. Edison, Inc., West Orange, N. J., calls its new Voicewriter dictating machine assembly set-up. The idea is one many other plants can adopt-for regular production of moderate quantities, or for trying out new mechanization ideas before expensive equipment is purchased. Key to the new system is careful arrangement of workbenches, with pigeonhole-type racks into which each operator can insert finished assemblies on one side, procure new ones on the other. Standard rotary tables make it easy to turn corners, and fitted trays, set at a convenient angle, bring needed parts within reach. Edison's industrial engineers have timed each operation and balanced the line as carefully as any fully automatic set-up. Result: smooth-flowing, non-stop production and a higher, better quality yield than ever before.



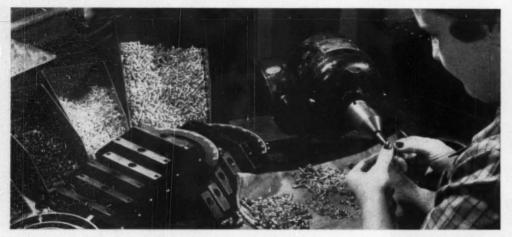
uses similar pigeonholed rack to pass them along when her job is completed. ment of parts supplies and suspension of hand tools above work space.



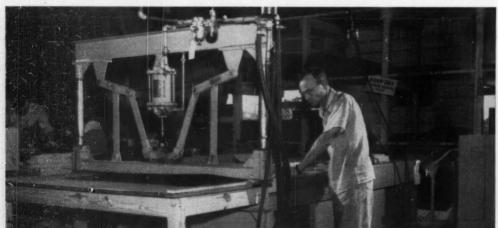
Close-up shows how operator gets assemblies from preceding station. She Turntable helps move assemblies around corners. Note convenient arrange-



Home-made tools can simplify many complex jobs. Router guide, made by Temco worker, increases accuracy so much that holes no longer need filing, cuts 15 minutes from production time.



Motor and adapter are turned into useful assembly tool at Delta division of Rockwell Manufacturing. Operator uses it as nut-runner in producing miter gages for tilting arbor saws. Note convenient parts-hoppers, handy electrical outlets, good lighting, and comfortable bench height.



Standard air cylinder and steel channels make a carton-forming machine that operates much like a press brake. With this unit, plus a standard bandsaw and a Bostitch stapler, Temco quickly turns out cartons for odd-shaped products, no longer has to wait for deliveries, saves over \$12,000 a year.

# How ingenuity planning

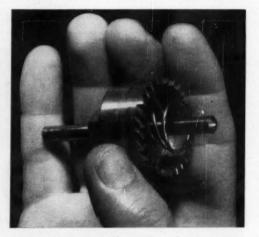
Almost any plant can find new ways to increase productivity without putting a dent in its budget. As the photographs show, it's possible to turn a surprising number of manual operations into mechanized ones at low cost.

A few electrical relays and switches can often turn a laborious manual operation into a semiautomatic or even an automatic one.

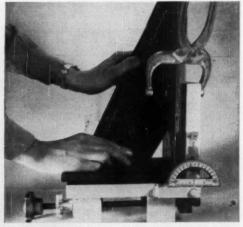
Air and hydraulic cylinders will actuate holding and positioning devices. Air jets can be used to eject parts from dies and remove chips, saving hours of time on manual unloading and cleaning of machines.

Once the idea of using simple, standard items takes hold, there is almost no limit to what can be accomplished.

At Western Electric's Tonawanda plant, for instance, a toothpick, olive oil, and diamond dust make a real contribution to productivity in wire drawing. The toothpicks (Western Electric



Steel spring, attached to pilot of hole-cutting saw, flips out hole slugs and chips, eliminates need for manual cleaning at Temco Aircraft.



Steel plates and a protractor simplify anglewelding at Temco. This adjustable fixture, like others pictured, was made in company shop.

and can pay off

prefers square ones, usually considered to be rejects), dipped in an olive oil-diamond dust paste, are used in polishing drawing dies. They do such a good job that wire yield has gone up, and die maintenance costs are way down.

At Lipe-Rollway Corporation, Syracuse, N. Y., pneumatic power attachments on machines and pneumatic lifting and holding devices have made it possible to simplify set-up and decrease machine cycle time to a point where productivity has gone up a good 30 per cent.

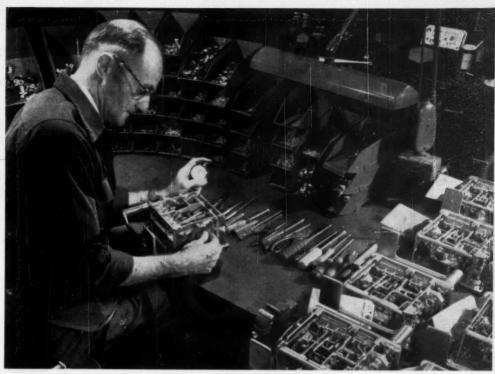
Are there similar opportunities for improvement in your own plant? Check the list on page 46 to find out.



Powered hand tools offer low-cost way to achieve high-value savings. Delta assembler has three electric screwdrivers ready for instant use.



Helper is no longer needed now that Convair worker has pipe rack and electric screwdriver for opening drums. Job is done a lot faster, too.



Workplace arrangement can do much to increase productivity, reduce costs. This Rockwell taximeter assembly and test station is a good example. Note how supplies are brought within easy reach.



Compressed air can do many jobs. Here, milling machine used to slot cast iron valve plates for Rockwell gas meters is powered by air. Compressed air lines can also be used to clamp parts in place, eject finished pieces from machines, remove chips, and actuate various assembly jigs and fixtures.



Record-keeping is an essential part of every job. Having forms on hand when needed can eliminate costly errors and delays. This plywood cabinet, built at Convair's San Diego division, moves with job, provides ample working space, holds each form in readiness for use, prevents mix-ups and losses.

ing systems need not be elaborate or time-consuming to be effective. Many training aids and courses are offered free of charge by equipment and materials suppliers; others can easily be set up within the plant. A good example is the school for materials handlers set up by Ansul Chemical Company (see January, page 61), which has all but eliminated production delays owing to lack of materials.

There are many other ways to increase productivity without spending a lot of money.

Minor changes in plant layout can often save thousands of dollars in time lost while men walk to and from tool cribs and water fountains, or wait for materials and parts to be delivered from distant depots.

A little paint and polish can have surprising results, too,

Cleaning lighting fixtures, increasing their number where necessary, and replacing burnedout bulbs can improve quality as well as quantity of output.

Use of spotlight colors on machines—light gray or buff for working areas, red and orange for switches and dangerous moving parts, and so on—also makes it possible for operators to work faster and with greater safety.

Productivity is one area in which each company must blaze its own trail and find its own best solutions. But, in many cases, all that's really needed is for management to get the facts on profit-stealers. When the causes are known, the cures are not hard to find.

Take scrap and reworked parts, for instance. Exactly how much material is being wasted? How much time is being spent on rework—and by whom? Are the percentages of scrap and rework going up or down?

Do you know why scrap is being produced? Are blueprints incorrect? Are tools dull? Are machines poorly adjusted? Are workers improperly or incompletely trained? Is careless handling responsible?

Would provision of quality-control charts and adequate gaging and inspection equipment right at the machine make it possible for the operator to reduce scrap and rework? Could special racks and trays for delicate parts help to reduce damage in handling? Could the parts themselves be redesigned, or tolerances and other specifications loosened so they'd be easier to make?

Asking and answering questions like these can turn up hundreds of opportunities to increase productivity and reduce costs.

For help on formulating such questions and finding solutions to the problems they expose, there is plenty of reference material.

Nearly a hundred *Management Aids* and *Technical Aids* leaflets, prepared by the Small Business Administration, are obtainable without charge from local Department of Commerce offices. (Topics covered include: production control, wage incentives, methods improvement, machine set-up, lubrication, and maintenance.)



Executive check chart

# SIX PLACES TO LOOK FOR SAVINGS

Here are just a few of the many areas in which most companies can find the time, money, and effort savings that add up to increased productivity. How long has it been since your company took a close look at these?



## Product design

- ☐ Can tolerances be loosened to simplify machining and inspection?
- ☐ Is it possible to combine or eliminate parts to reduce production and assembly work?
- Could slight adjustments in design make it possible for one part to serve several models?

# Production-line supply

- ☐ Do workers and machines frequently have to wait for tools? materials? blueprints? An accurate record of downtime can usually show up many avoidable delays.
- ☐ Is an effort made to avoid oversupply; so extra materials do not get in the way, or suffer damage while waiting?

# Working conditions

- ☐ Do workers have enough elbow room, but not so much space that they waste motion covering their areas?
- ☐ Is lighting adequate to permit safe, sure operations?
- Is ventilation sufficient to prevent fatigue and safety hazards?

# Production planning and scheduling

☐ Are production lines balanced, and auxiliary operations (heat treating, painting, and so on)

- timed and co-ordinated, so work moves along without delay or pile-up?
- ☐ Are small orders combined wherever possible to reduce set-up time and achieve the most economical production quantities?
- ☐ Are stock orders scheduled for slack periods, or, better still, added on to production orders to avoid duplication of effort?

# Manual production and assembly operations

- ☐ Is work planned and set up so operators can make use of both hands?
- ☐ Are jigs and fixtures provided to simplify work holding and positioning?
- ☐ Are machine controls centralized to eliminate waste motion?
- Is full advantage taken of the many types of powered hand tools now available?

# Scrapped and reworked parts

- ☐ Is an accurate record kept of scrap and rework charges?
- ☐ Are their causes found—and promptly cured? ☐ Is rework, when necessary, done in the most economical manner—and not allowed to interfere with regular production operations?
- ☐ Is every attempt made to collect and re-use scrap, and sell material which can not be used? ☐ Are all the parts that are reworked actually worth saving?

Other government publications—on supervision, use of tools, and materials handling—are offered for sale by the Government Printing Office at moderate cost.

Builders of materials-handling equipment have flow-chart and layout-planning kits; and machinery makers like South Bend Lathe have three-dimensional models of their machines which they lend to layout planners.

Meetings of such associations as the American Management Association, the American Society of Mechanical Engineers, the American Society of Tool Engineers, and the Society for the Advancement of Management regularly cover wage incentives, production planning, plant layout, and related topics. Proceedings of past meetings are usually obtainable in printed form.

It's worth keeping an eye, too, on productiv-

ity research by such companies as E. I. du Pont. Its production-line operators have developed a great many useful gadgets (see November 1953, page 123), and its industrial engineers have made a number of photographic studies aimed at finding the best way to perform a variety of plant jobs (see January 1954, page 118). They're now working on several interesting fatigue studies. One recent finding: So much more effort is required to stack bags four-high than three-high, that it's probably worthwhile to waste the extra overhead space or, better still, to invest in a stacking platform which automatically rises as each bag is stacked.

The platform might cost money. But the stacking principle does not. And, as the examples here prove, more productivity can be had—for pennies—by the management that wants to try.

# Is It Time to Change Jobs?

## JEROME MAYER

Director, Postgraduate Services

Job change should result in advancement in one form or another, yet too often it is merely a sidestep brought about by misleading desires and impulsive action. How to curb the impulse and examine underlying motives is discussed here. A checklist at the end of the article may help in determining when to change.

NE of the most important decisions a man can make is the decision to start looking for another job. And yet how meager are the facts upon which this decision so often rests! A sense of failure, a feeling of frustration, or even an indefinable fear has frequently swayed a man's decision to switch positions only to find that the change did not provide the solution to his problem.

We all feel the urge at times to seek betterment, appreciation, or congeniality. We are not always wise in deciding whether to follow this urge. Since it is so much easier to see the faults of another rather than to recognize one's own errors, let's look at some actual examples. These three instances are not necessarily typical, but they are not uncommon either.

When John Rogers first came to me he was depressed. He had been a successful salesman for fifteen years. Now he felt incapable of doing an adequate job and wanted assistance in preparing a résumé and job campaign to find a "dream" job before he got himself fired from his present position.

Henry Williams felt frustrated in his position as assistant comptroller. He had worked his way up, had deserved each promotion, and was rightfully proud of the work he was doing. His principal ambition was to be comptroller and then treasurer of the company. He sensed that there was a lack of appreciation for his abilities which indicated the likelihood of his being passed over when the time arrived for a promotion.

Charles Tate, president of the ABC Company and subsidiaries, had worried himself into an ulcer and was having his headaches with an "incompetent, stupid board of directors" that succeeded only in making his life miserable. He wanted to get out and get a new job.

His experience spoke for itself and yet Tate had not been able to do that for himself—a handicap that prevented him from fully justifying his actions to the board of directors.

Each of these men was asked if he had made a thorough study of himself. Had he gone through the three fundamental steps to determine if it were time for a job change?

1. Had he appraised his own personal attitude and desires to determine if his judgment about his present job was impartial and objective?

2. Had he made an impartial survey of his own abilities and those of his possible competitors for the same or similar job?

3. Had he fairly appraised his own job, his company, and those for whom he might work?

Were John, Henry, and Mr. Tate on the right track? Would a change of job be of any use? Was their timing right? Would they run into the same difficulties in any new job? In a word, were their beefs and gripes realistic?



PHOTOGRAPH BY BO AND JOAN STEFFANS

It is most difficult for the individual to look at his problem objectively. His appraisals are always prejudiced or biased by his own emotional involvements. However, some hints and suggestions can be made to help oneself become more objective and to dig beneath the surface and face the facts as they really are.

John, Henry, and Mr. Tate were blinded to their real motives for wanting different jobs. But these motives were unpleasant, injurious to their vanity, and were better left unknown. They, like many of us, projected their troubles to others, rationalized their faults, and externalized all their difficulties.

One of the most important characteristics of the neurotic problem—one not founded on reality—is that it is repetitive. If one has had repeated experiences of not getting along with the boss and the organization, or if one has had repeated gripes, then one should suspect himself as being the real cause of the trouble.

Even the well-adjusted person may on occasion have difficulty, but ordinarily he soon learns not to repeat the same mistake and hence his problems are likely to differ from each other. But the poorly-adjusted person makes the same mistake over and over again, choosing subconsciously the same kind of environment each time because it satisfies a neurotic need.

At this time it may be well to point out that the word neurotic has no terrible meaning, nor does it imply any stigma. It simply means that the pattern of reaction is not founded on present demands of reality but has been transferred from some previous situation.

Let me illustrate with John's problem. John, it was disclosed, had a very domineering mother. He early developed a method of coping with her by giving in to her wishes—as a child this was the easiest thing for him to do. But he never really quite accepted her overbearing, dictatorial manner. He merely created a façade of acceptance. Inside he rebelled at taking orders and this reaction was still present. He was now refusing his own orders.

John's problem was neurotic, but by effective counselling he was enabled to cope with his problem and finally handle it.

But note this: He resented taking orders, on the job and off. His pattern of reaction to orders, or what he interpreted as orders, was resistance. He couldn't, at first, either see this or accept it because it put the blame on him. It was easier and far more acceptable to him to blame the job. It was not time for a job change for John.

Look, then, for repetitive and compulsive patterns of reaction; of unrealistic reactions which depart from the so-called "normal."

Look for emotional reactions which are stronger than usual, as in this case:

Henry felt unappreciated, felt that the front office only cared about profits. They had no soul. They were indifferent to him.

Henry should have looked around and compared his attitude with the rank-and-file of his associates. Did they agree with him? Was he, perhaps, out of step? Did he always agree that management was at fault?

Pursuit of this line of thinking might have proved to Henry that he had better re-examine his premise that his failure to advance further was solely the fault of management.

Mr. Tate had the happy faculty of facing facts when the chips were down. For some time he



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had had the smoldering thought that he was ready for better things, perhaps a bit ahead of his directors, and yet he wasn't quite sure. But Tate had formed the habit of yelling for expert help when he needed it. So he talked it over with a professional counsellor.

It appeared that Tate was right—it was time to move on. He carefully appraised his assets, then planned his campaign, and eventually found something better. His frustrations disappeared; so did his ulcer. Moreover, he brought to his new company an enlightened management. He set up an atmosphere in which employer-employee communication was facilitated, where a better exchange of ideas and feelings was encouraged, and set the stage so that men could express themselves.

#### Rate Yourself

How about yourself? Do you generally think you are better or worse than your business associates, friends, and acquaintances?

Here again, realistically, you may be smarter or more experienced, but we mean, do you *feel* that you are better, without a real regard for the facts?

Do you unconsciously compare yourself with others even when there is no need for doing so? If you take a good look at yourself, at your reactions to situations where it really doesn't matter whether you are better or worse, then you might see that what you are trying to do is live up to an idealized image of yourself. Since this is ordinarily impossible to realize, you try to blame your job, management, and others for your failures, real or fancied.

Thus, you must reevaluate your basic concepts of yourself and your goals in life and see how truly realistic they are.

It would be wise, before you decide on a job change, to determine if the decision is based on an emotional need which is not satisfied. For example, John sought a job change which seemed to be because of dissatisfaction with his job. His desire was to get away from orders. In any job he might have changed to, he would have found the necessity to take orders from a boss or himself.

This pattern may be seen also in a different guise with Henry, who



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actually felt frustrated, whose ego had been wounded, and whose unfulfilled desires to be a top dog in the company had not been realized. He failed to recognize that he would probably meet the same kind of problem in any company.

This article cannot, of course, run the gamut of the myriad types of defenses. It might be interesting, though, to set forth some of the superficial indications of neurotic drives in the checklist at the end of this article. And remember, answering "yes" to one or several questions does not make you a "neurotic," as the expression is popularly used. We all have slightly neurotic tendencies that are harmless and may be disregarded. They are chiefly important when they interfere with our goals.

#### Face Facts

The emotional bias checklist is simply suggestive as a springboard which may start you on a search that might lead you to discover your hidden motivations and goals. If you find that these motivations and goals are realistic and logical, and reasonably susceptible to fulfillment, then you are ready for the next step to see if it's time to change your job and appraise your company. Make due allowances for possible bias that may exist in your appraisal by virtue of possible neurotic trends within yourself. (See checklist, page 52.)

Those who jump to the conclusion that it is time for a job change will not really consider the facts; and actually do not want to examine the question at all. In other words, they are afraid of a soul-searching examination into all the reality factors. If that is the fear or if, for other reasons, there is stub-



"I'm sorry, Mr. Bombard, this is the sales chart. That's just a little record of my blood pressure."



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born refusal to look the situation in the face, this is where the services of a professional counsellor enter.

Although the emphasis has been to stress the danger of jumping to a decision to change jobs, the author believes that it is equally unfortunate to decide arbitrarily to cling to a job and refuse to make any change or ask for promotion.

#### **Evaluate Motives**

A man may refuse to recognize that there is no future within his company for the very reasons that another wants to get out as fast as possible. Both are usually motivated by some type of insecurity, but the one solves it by clinging to that which he knows for fear of the unknown, and the other solves it by believing that anything can be an improvement. Thus the man who clings to his job should continually appraise his situation in much the same way as the man who seeks to change his job.

Therefore, it would seem to behoove anyone who is not satisfied with his present progress in life to make a strenuous attempt to objectively review his past accomplishments. He should consider the reasons for his successes and failures, and those of his contemporaries, so that he may chart his future.

#### **Emotional Bias Checklist**

The following checklist is to determine compulsive tendencies. Obviously one must please others to get along, but the normal person does this out of free choice. How do you rate?

DO YOU:

indiscriminately need to please others and be liked?

unconsciously and ordinarily live up to the expectations of others?

fear self assertion?

fear hostility on the part of others or in yourself?

want to be liked or "loved" for yourself?

find it necessary to be undemanding and restrict your ambitions?

find it necessary to belittle your skills and potentialities or those of others?

imagine yourself the boss?

have contempt for your fellow employees or the boss?

believe that given the chance, you could show them?



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feel deep down superior to other people? dread recognizing the limitations of your intellect, personality, skill, or judgment? feel the need to exploit others and get the best of them by hook dread being exploited? or by crook? want prestige for its own sake; would you like to be a big shot? like to go against the tide? feel a need to surpass others? press too hard? take criticism easily? like to dominate others just to be dominating? Check Your Job and Company Has the company a systematic program of internal promotion? Do you have objective examples in others of the company's appreciation of skills and talents? Have fellow employees been rewarded for their conscientious devotion to their jobs?

Does the company have a gen-

eral policy of regard for the feelings and welfare of its employees?

Do your bosses have the per-

sonality characteristics that mix

with you or do you find repeated

instances of hostility and friction? Is your company progressing and expanding?

Does your company have room for you in an advanced position at greater salary or responsibility?

How do you stack up with other people who would be glad to have your job?

How many people do you think would take your job at less pay than you receive?

Have you checked the labor market to see how much you are worth in that market?

Have you compared all the aspects of the companies for which you might work with those which exist in your own company?

Have you objectively compared yourself with others in the same company as to skill, personality, productiveness, and tenure?

Have you consulted on an emotion-free basis with others in your line of endeavor for their unbiased opinion as to your skills and potentialities?

Have you re-examined all the factors which you assume to be true before you arrive at your decision to change your job?

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Some facts about HIGH MORALE AND EMPLOYEE **EFFICIENCY** 



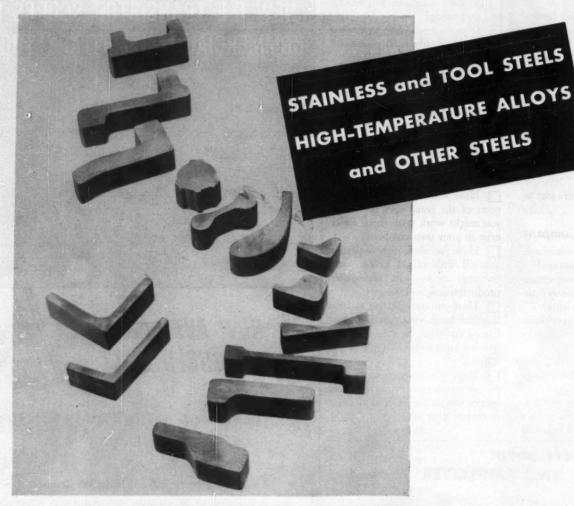
on-the-job safety...build employee morale with Magne-Music. Relax mental and physical tension, reduce "sag" periods, stimulate creative thinking. Get better products and services from better, happier

Put background music to work for you...today.

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Where can these leading advantages of hot-extruded special alloy steels apply to your production?

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of it... save both in time and material cost.

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# Executive BOOKSHELF

## Hard Facts

The immense importance of minerals to our lofty living standards is demonstrated by data such as these: iron output in India is eight pounds per capita and about 1,500 pounds in the United States. Economist Walter H. Voskuil of the University of Illinois has dug into the mine of available information about minerals and refined the inert data so as to present a concise, easily readable account in Minerals in World Industry.

Proceeding from the premise that iron is the key to modern industrial society, the author describes the functioning of the world economy in terms of steel, manganese, copper, oil, coal, and other essentials. The book offers both a realistic appraisal of the metallically hard facts behind international tensions as well as much valuable information on the present uses and future supplies of minerals.

McGraw-Hill Book Company, 330 West 42nd Street, New York 36, N. Y., 324 pages, \$5.75.

# Making Sales Profitable

In recent years, inspirational books on how to sell have been as numerous as sales managers' pep talks. A recent volume approaches the problem from another direction.

Management engineer John D. Corrigan, who serves many companies both large and small, has put his program for sales improvement between the covers of *How to Build Profit Value in Your Sales Dollars*. Written expressly for sales managers and others directly responsible for boosting income, the book demonstrates how to cut the high cost of not selling and how to pack profit-power into each sale.

Author Corrigan disputes the frequently expressed yearning for a return to "old-fashioned selling." Instead, he insists that sales managers need to apply the techniques

of scientific management which have proved most efficacious in other segments of business. He offers a blueprint for using the latest techniques of job evaluation, break-even charts, systematic selection, training, and control of salesmen, and other methods for boosting sales.

The Ronald Press Company, 15 East 26th Street, New York 10, N. Y., 242 pages, \$3.95.

#### To Prevent Waste

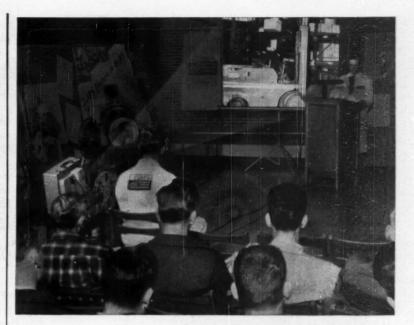
Of all the modern inconveniences that bedevil business, none is more constant than the decay and deterioration of materials. To make your efforts to resist rust and rot just as constant, there is a new, comprehensive manual, *Deterioration of Materials: Causes and Preventive Techniques*, which is the first volume of its kind. This study, which developed from Government research programs, is a joint effort of the Department of Defense and the National Academy of Sciences-National Research Council.

Editors Glenn A. Greathouse and Carl J. Wessell bring together detailed directions from two dozen specialists on how to make durable goods endure and make soft goods more hardy. The most up-to-date tested techniques for preserving all varieties of metals, wood, paper, textiles, leather, plastics, rubber, paint, and many other materials against climatic, chemical, physical, and biological agents of deterioration are included in this volume which many readers will certainly do their best to preserve.

Reinhold Publishing Corporation, 430 Park Avenue, New York 22, N. Y., 835 pages, \$12.

# Basic Reading

One of the standard works on managing a manufacturing enterprise, *Industrial Management*, by William R. Spriegel and Richard H. Lansburgh, has been brought up to date to reflect the advances in management methods in recent years. Rich with paper-work forms,



# Getting workers to THINK safety...

# Clark Equipment Company does it with movies

Safe working methods boost employee morale and save dollars for the employer. But many workers resist safety training like schoolboys shying from dancing lessons.

The Clark Equipment Company, however, has found the answer. Their 25-minute movie, "Safety Saves," teaches safety procedures to users of Clark lift trucks and other materials-handling equipment. Dramatic and entertaining, the film teaches more than basic safety techniques. It stimulates the workers to think in terms of safety,

#### Selling ability, too

The movie is part of a mobile training school on the use and maintenance of the company's equipment. The school is transported all over the country by trailer truck as a service to Clark Equipment Company customers. It pays off handsomely as a sales stimulant and good-will builder, too.

Since this "school on wheels" is packed

Since this "school on wheels" is packed and unpacked in a hurry, Clark must use movie projectors that combine simplicity and ruggedness. To meet these specifications with projectors that also deliver superb sound and visual reproduction, Paul King of Krum's Audio-Visual in Battle Creek, Michigan, recommended Kodascope Pageant Sound Projectors. Here's why:

#### Pageants never need oiling

Only Pageant Projectors are permanently pre-lubricated to by-pass the common trouble spot of improper oiling. To Clark, this means worry-free projection on the road, where repairs are usually impossible. And thanks to the versatility of the sound mechanisms, Clark is able to use Pageant amplifiers and speakers as a public-addressystem during non-film portions, eliminating the need for special extra equipment.

The rugged dependability of Pageant Projectors makes them ideal for industrial use. There are 6 models to choose from, and prices start at \$425 (subject to change without notice). Think over *your own* selling and training problems—chances are that movies can help solve them easily and effectively.

can help solve them easily and effectively.

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IN ADDITION to 16mm. projectors, there is also a wide range of other Kodak audio-visual equipment...16mm. movie cameras; 35mm. still and stereo cameras; stereo viewers; table viewers; projectors for Kodachrome slides and filmstrips; high-speed movie camera for engineering and methods studies; plus a complete range of special aids for making better business pictures.

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plant-layout illustrations, and examples of procedures in many plants, this volume should be absorbing reading for industrial exec-

Among the many topics treated are job evaluation, production control, inspection techniques, inventory control, materials handling, and many other essentials of plant operation. A valuable bibliography enables the reader to look further into particular problems after he has attained the over-all view offered by this volume.

John Wiley & Sons, Inc., 440 Fourth Avenue, New York 16, N. Y., 640 pages, \$6.75.

# Out of the Woods

An eagle's-eye view of the forest of facts about leadership and executive performance is offered by the new bibliography compiled by the Industrial Relations Center of the University of Minnesota. Gleaned from scholarly journals, business publications, and other sources were hundreds of studies, articles, and other works which have been pithily presented in Leadership and Executive Development, A Bibliography.

Among the branches explored in this bibliography were works on the qualities for leadership, nature of executive jobs, selection and training of executives, and measuring executive effectiveness. Most of the studies and articles listed are marked by an absence of the platitudes which often encumber articles on leadership. Instead, the stress is upon practical, experimentally proved evidence about the rôle of the executive.

University of Minnesota Press, 10 Nicholson Hall, Minneapolis 14, Minn., 56 pages, \$1.50, Bulletin #14.

### Meetings Made Easy

Since much of the decisive work of modern business is done when people put their heads together, it is altogether fitting that systematic consideration should be given to the techniques of conferring and discussing. Authors William M. Sattler and N. Edd Miller have done just that in the new volume, Discussion and Conference, an easy-to-read manual which is as full of ideas as a loquacious conference leader.

Prentice-Hall, Inc., 70 Fifth Avenue, New York, 11, N. Y., 353 pages, \$6.35.



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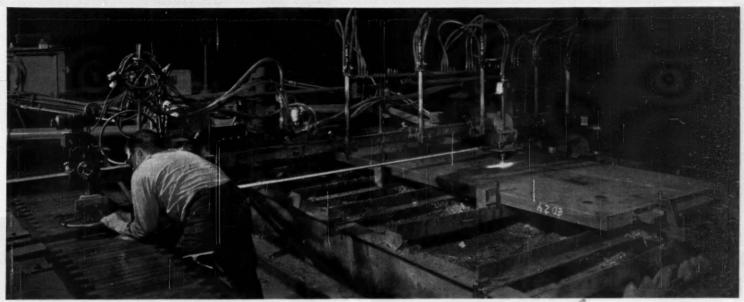
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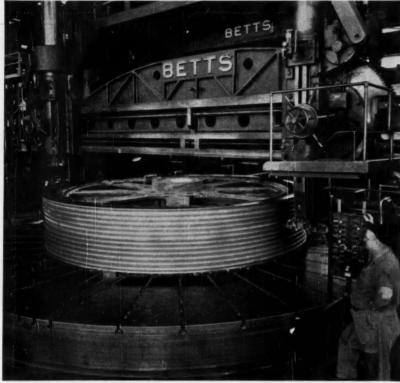
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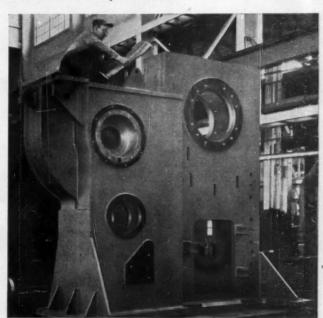
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PLAIN AND FANCY FLAME-CUTTING • There's a lot more to weldments than welding alone. At the Bethlehem Weldment Shop, where complex jobs are commonplace, this elaborate flame-cutting equipment rarely gets a breather. Set for either magnetic or electronic tracing, it can cut plain or fancy shapes in thick steel plate—and fast! Big jobs are no problem. The bed of the cutter measures 12 by 60 ft.



**HIGH-CAPACITY MACHINING** • If your weldment calls for machining, as did this big sheave, it's easily handled by Bethlehem. Our shops are equipped with some of the highest-capacity machines to be found anywhere. This 25-ft vertical boring mill is a good example.



**COMPOSITE WELDMENT** • You sometimes find that composite construction fills the bill. For instance, this 17-ton main frame for a powerful billet shear was fabricated from rolled plate, forgings and castings, all manufactured, machined and assembled by welding here at Bethlehem.

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# Craftsmen of the 20th Century

No. 1 of a series to introduce you to some of industry's outstanding plastics craftsmen



Every age has fathered its artisans. In the past, wood carvers, silversmiths, steel forgers all fashioned useful and beautiful products from the materials at hand.

Today, new kinds of materials have been created. And a new group of craftsmen—the molders of plastics—has emerged to blend timeless skills into modern techniques of mass production. Pictured here are two of the many specialists who are now molding plastics materials into products that are serving every industry, every home.

Monsanto, a major producer of high-quality plastics materials, salutes these craftsmen who are helping to mold America's tomorrow.

Monsanto Chemical Company, Plastics Division, Springfield 2, Mass.

When your plans call for plastic parts or products, consult an expert custom molder,



#### Oscar Niemi, Supt. Injection Molding, Santay Corp., Chicago

Over the last 15 years Mr. Niemi has turned out plastic products on all types of equipment, ranging in size from 2-oz. to 60-oz. machines. Perhaps the most outstanding job under his guidance has been an electronic part, a coil form with 4-wire inserts molded in. The coil form has been running over 5 years, 85 shots per hour in a 12-cavity mold. He has also run a 21-in. television "lens" in a single cavity mold (using 8 different molds) for over a year and a half, each molding optically perfect.



#### Cornelius DeBlock, Mack Molding Co., Arlington, Vermont

More than 26 years ago "Casey" DeBlock began learning mold design and plastics technology in the machine shop of Mack Molding. Today, as pulse-taker of Mack's production line, he supervises the operation of injection molding presses which vary in capacities from a few ounces to 15 pounds per "shot." Casey was one of the first to recognize the need for "lubricant" in injection molding compounds. His suggestions helped chemists improve the performance of plastics materials for broader use.





# TRAFFIC MANAGEMENT: Gold Mine in transit

It's a \$90 billion annual expenditure, yet management accepts costs often more than 20 per cent of sales on blind faith, with no control over decision-making.

Savings: 1954

Stop-offs in transit for partial unloading and for consolidating motor carrier shipments. \$61,450.26

Stop-offs in transit for partial unloading and for consolidating rail carload shipments... \$53,287.52

Overcharge claims collected. \$ 1,790.56

Loss and damage claims collected......\$19,572.22

Trucking Division savings.... \$29,019.35

Other savings...... \$77,940.40

Grand Total..... \$267,163.63

# The savings are substantial The example is not typical

The savings above, taken from Otis Elevator's general traffic manager's report to management for 1954, represent about 12 per cent of the company's actual freight bill for the year. It shows what an alert traffic department can accomplish for management when management knows how to co-ordinate traffic functions with other departments. Traffic's work with packaging at Otis, for instance, may save the company as much as \$40,000 this year by showing that half-inch lumber could be substituted for heavier crating without risking damage to products during shipment. Few companies maximize the effectiveness of their traffic department, mainly because they have no concept of the services available.

JAMES K. BLAKE Marketing Editor

LAST November the editors invited 24 of industry's leading traffic experts to comment on the results of a pilot survey made of over 300 manufacturing companies. The survey's purpose was to develop a number of traffic costs-gross sales ratios on an industry-by-industry basis. Refined and expanded, such ratios could provide a valuable control tool for management. When the editors proudly unveiled their handiwork, the experts were aghast. The results, putting it mildly, were rotten. Inaccuracies and distortion abounded in every ratio, for every industry.

As the conference dug deeper into the facts, it became clear why. Less than 10 per cent of the respondent companies maintained accurate, current cost data—the others, stating that cost data were not available, returned to us their best estimates. Most of these estimates were incorrect!

Considering the fact that millions of dollars in transportation charges are involved for larger companies, many of the responses were little short of fantastic in this cost-conscious era. For example, one of the biggest chemical companies wrote, "Unfortunately we do not keep any record, accounting-wise or traffic-wise, of inbound or outbound transportation charges paid for our purchases or sales."

A prominent electronics corporation returned what appears to be an incautious non sequitur: "Several years ago we discontinued keeping detailed data such as would place us in a position to properly answer the questions you are seeking. Notwithstanding this, we have complete control over all our transportation costs." Another electronics manufacturer carefully explained: "The numerous articles we manufacture and purchase for use by . . . plus the fact that the materials may be shipped from or to any point within the country, makes it impossible to an-

swer with any very high degree of accuracy."

Though it begs the question to ask how cost control is possible without knowledge of costs or why decentralization does not triple the need for maximum control, it is pertinent to inquire why top management in many, if not most, companies accepts on blind faith expenditures frequently amounting to more than 20 per cent of net sales.

The major, fairly obvious, answer is that executives in many companies, including those to whom the general traffic managers report, believe that the total traffic cost is as inevitable as the need for bringing raw materials into the plant or shipping products to the market. As the president of a machine tool company said, "What can we do about it? The Commission makes the rates and we've got to pay them."

This type of thinking has resulted in possibly less knowledge and understanding of the work of the traffic department than of any other department of the company. Buying transportation service is much like buying any other service or materials, except that the pricing structure is highly complex. Inefficient buying wastes thousands of dollars for many companies each year. Many additional thousands are wasted because many firms, having committed the cardinal management sin of failing to control the traffic department, fail to use the auxiliary services that department should and can provide to other departments.

A mammoth Eastern manufacturing company at the end of the war needed additional plant facilities. The Federal Government put on the market a war surplus plant at a price about \$1 million under a fair appraised value. It looked like a steal. A hasty survey determined the suitability of the layout and physical facilities. The labor supply was adequate, other major con-



# "INDUSTRY'S FLYING PARTNER"— UNITED AIR LINES

In today's fast-moving business world the difference between profit and loss is sometimes only a matter of hours. That's why industry is turning more and more to dependable air freight to tap new supply sources, to open new markets, and to speed up and streamline existing operations.

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UNITED'S NEW RESERVED SPACE AIR FREIGHT PLAN is a new and exclusive service that allows you to reserve in advance, space for your shipments in or out. It's almost like having your own shipping space to use at will, previous consideration having been given mail and express needs. Reserved space to 84 countries the world over!

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siderations were not unfavorable. The general traffic department was not consulted and, in fact, knew nothing about the negotiations. Transportation costs were not appraised, although the project was strongly supported by the sales vice-president, who should have known better.

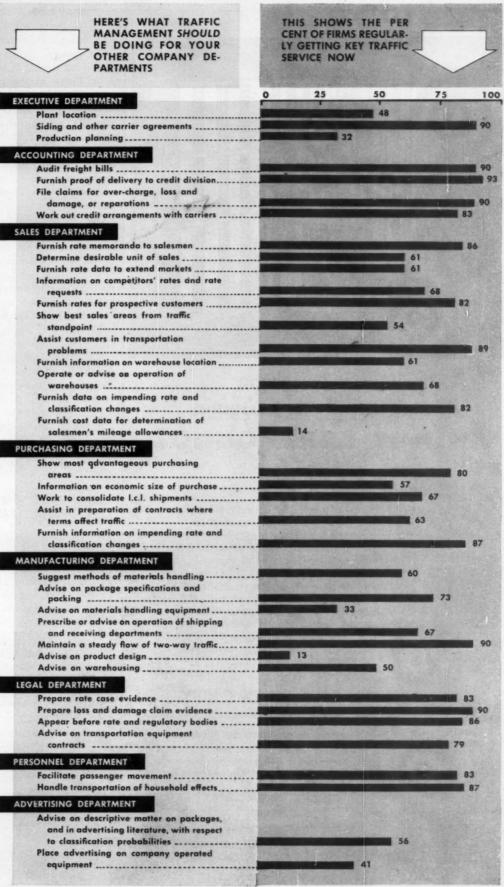
The plant was bought. The traffic department then quietly studied the transportation situation, finding that the plant suffered an annual penalty of half a million dollars in freight charges because of its location remote from supply sources and market centers. As the market for the plant's products is increasingly competitive, there is serious doubt that the plant can continue to operate with a freight charge of 2 cents per pound (or about 4 per cent of the selling price of the product) higher than at a favorable location. Belatedly, the company's traffic department is now a member of the executive planning committee.

#### How Not to Control!

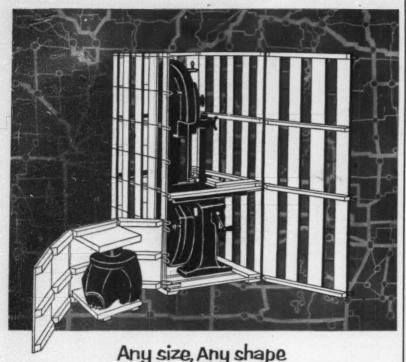
In the files of Rogers, Slade & Hill, one of the first consulting firms to move into traffic analysis, are scores of examples of needless waste and inefficiency, stemming basically from lack of knowledgeable management control. The president of a container manufacturing firm, for instance, was amazed to learn he was paying about 10 per cent of gross sales for traffic charges, or about \$5 million annually! More startling was the fact that the money was being spent by a traffic manager who was actually a glorified rate clerk, and a totally inadequate staff. The traffic manager may have been competent enough 20 years ago, but because the top brass did not see and was utterly disinterested in the key nine-tenths of his performance, he had allowed his position to deteriorate to the point where he was doing little more than personally procuring travel reservations and tickets for executives, and actively directing a handful of company-owned trucks. As a result, nearly \$50,-000 that should have been in the profit column was being spent on needless freight charges.

In another company, a dominating manufacturing vice-president insisted on receiving a certain chemical in drums because of the greater convenience in handling. It was with considerable reluctance that he agreed to examine a traffic study which showed that the difference in price between bulk and drum purchases would write off the cost of new bulk storage and handling equipment in six months and that the savings in transportation costs alone would amount to more than \$2,000 a month.

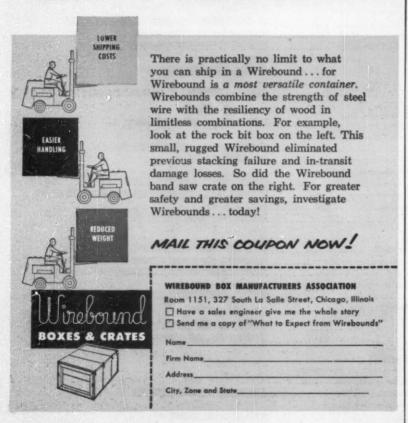
Many sales departments are totally unaware that they waste thousands of traffic dollars. Hypnotized by the magic phrase "service the account," sales management often insists on the fastest form of delivery, regardless of cost. A machinery manufacturer discovered last year that 40 per cent of all shipments were being made via fast, premium-cost, rail and air express. It turned out that more than two-thirds of the



Source: Data collected for study by Indiana State Chamber of Commerce and Indiana University



No matter where it's bound SHIP IT WIREBOUND!



express shipments could be made by a slower method without damaging customer relations in any way. Savings: \$3,700 per month.

The general traffic department seldom has the ear of top management. (Some notable exceptions—and some notable results—are described in the article beginning on page 75.) Consequently, traffic management is often unable to push through operating economies which involve changing practises in other departments and it is here that some of the most dramatic opportunities lie.

One Midwest manufacturer is ideally located close to materials and to his market, which is regional. Transportation costs should have been low, yet he was having difficulty meeting competition from companies located as distant as New England. Though it is not a large firm and, consequently, contacts at all levels of management could be expected to be frequent and fairly intimate, the president consulted for the first time with his traffic manager. In this company the traffic manager was efficient and able, but though he controlled millions of dollars in annual expenditures he reported to a shop superintendent. Top-management control simply did not exist. Their talk brought into the open the type of roadblock that traffic departments meet constantly.

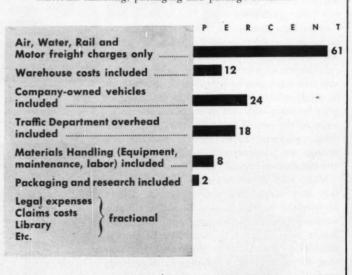
Traffic costs were exorbitant because the shipping room foreman was insistent on keeping the shipping room floor clear. Every order was shipped almost immediately, regardless of size, which greatly improved the neat appearance of the shipping department. The traffic manager, whose office was under a dark, back stair, had no control over shipping practises, and though he constantly reported the waste to the shop superintendent, that gentleman was overruled by plant management to whom the shipping room foreman reported.

When, faced with a hot fire to put out, management accepted the recommendations of the traffic manager (which involved definite policies on quantity shipments, close co-ordination among traffic, production, and sales, and setting up controls to measure accomplishment) the manufacturer within one year dropped his transportation costs from an excessive 7.6 per cent of gross sales to 5.8 per cent. The net saving equalled more than \$250,000.

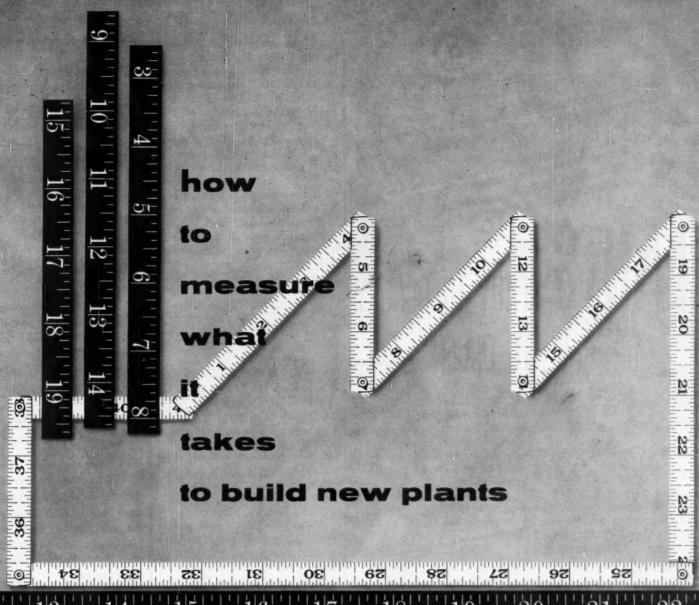
The complete unawareness of

# HERE'S HOW 244 COMPANIES DEFINE "TRANSPORTATION COSTS"

Traffic cost responsibilities shown here point up growing management trend; giving the traffic department control of all functions relating to movement of materials and goods, including warehousing, materials handling, packaging and package research.



Source: Survey conducted by editor



1 | 2 |

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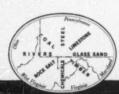
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executives outranking the traffic manager of even seemingly elementary facts about the movement of materials and products cannot be overstated. This month, for example, the vice-president of an Ohio manufacturing company, who is legitimately proud of his production efficiencies, will waste between \$4,000 and \$5,000. He insists that certain inbound materials be expressed to the plant because he can't afford production delays. But in the raw materials warehouse sit shipments of materials that arrived in January at a cost three times over another form of transportation which would have taken only two days longer!

#### How to Throw Profits Away

This recital of typical examples of needless waste could go on and on. One expert estimates that as many as 75 per cent of all manufacturing companies are paying absurdly high demurrage costs. Demurrage is a penalty charge imposed by railroads for the holding of cars by shippers or receivers of freight beyond a reasonable fixed time. Usually, these charges are excessive because no mechanism has been created to provide for proper co-ordination among shipping and receiving, traffic and production. There is, in other words, a breakdown in management control. This cost a large multiplant company a quarter-million dollars in 1952. The only need was for better housekeeping and policing. Within two years, this company's demurrage bill was reduced to free over \$170,000 for other purposes.

In most companies, management has no way of knowing whether even basic functions in the traffic department are being performed efficiently. Take rate work, for instance. The possible combinations of fixed rates for a multiplant company may be in the millions and determining the lowest rate possible, considering all factors involved with a shipment, is a complex job. But a smart traffic department negotiates whenever possible with the carriers to get an even lower, special commodity rate for the product. Yet management, not from a reasoned assurance that sufficient vigilance and ingenuity are being exercised in the traffic department but from lack of alerted interest, seldom controls this basic function.

# WHY IS "BIG BUSINESS" LEASING

Instead of
Buying Its
Company Cars?

The growing tendency among the top management teams of American and Canadian business firms is to favor leasing arrangements with reputable companies over the old practice of owning a car fleet or paying intricate mileage allowances.

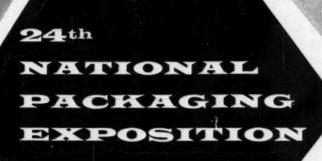
Now, for the first time, The R. A. Company (one of the world's largest and oldest auto leasing organizations) is offering a completely documented explanation of this trend.

This booklet, free upon request, explains briefly and convincingly why leasing is the most economical, efficient, and convenient method of fleet operation. And, what is even more important, it shows how the R.A. Plan can give a tremendous boost to employee morale without a penny of extra cost to your company.

Write now for your complimentary copy of "The R. A. Plan".

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April 18 to 21, 1955 International Amphitheatre Chicago There's always something new in packaging! This year the emphasis is on competitive selling— the impulse package, the cost reducing automatic technique, the new material that boosts sales, increases efficiency of packaging, packing and shipping consumer and industrial goods!

You'll see nearly 400 leading exhibitors.

You'll be able to compare thousands of materials, machines, equipment and supplies all in one place at the largest National Packaging Exposition in history.

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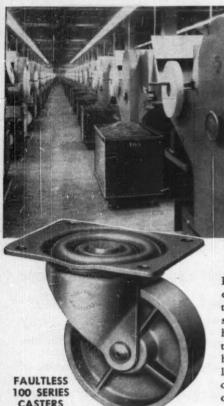
Address American Management Association 330 West 42nd Street, New York 36, N. Y. for complete information about the Exposition and the concurrent National Packaging Conference.



AMERICAN MANAGEMENT ASSOCIATION



# LIGGETT & MYERS, DURHAM, N. C. PLANT MAINTAINS PEAK PRODUCTION WITH CASTERED SUPPLY LINES



The production of millions of cigarettes every eight hours at the Durham plant of Liggett & Myers Tobacco Company depends to a large extent on material movement of the highest efficiency.

One very important operation in the manufacture of cigarettes at Liggett & Myers is the transfer of tobacco between a conveyor at the central tobacco truck loading depot and the hundreds of cigarette making machines in the manufacturing area.

Box trucks equipped with four Faultless 100 Series Truck Casters, designed especially for the tobacco industry, are used exclusively in this operation. These highly maneuverable tobacco trucks have 4" diameter, plain bearing, semi-steel wheels. These low-operating-cost Faultless casters assure a constant supply of bulk materials to hundreds of cigarette making machines.

Special king pin construction eliminates all possibility of breakage at this vital point. The horn is made of heavy gauge steel, properly formed and contains about 50% more metal than the ordinary caster. Available in a full range of wheel sizes in Semi-Steel, Ruberex, Rockite, Plaskite, Vulcanized, Rubber Tired, and Drawn Steel. Thread guards are available in the majority of sizes.





Each month the solution to a real materials handling problem is fully presented in a free, handy size folder. To get the complete story on the Liggett & Myers caster application mentioned above, write for your copy.

FAULTLESS CASTER CORPORATION

Offices is Atlante Sector, Buttelo, Chicago, Cleveland, Dallar, Deltait, Grand Reside, Night Phint Hauston, Indianapolis, Les Angeles, New York, Philodolphia,



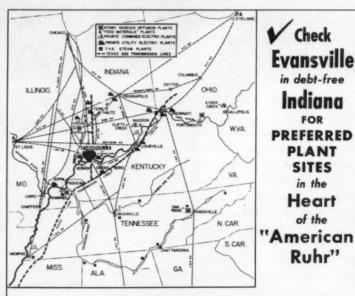
One company is still shipping a product under an optical equipment classification although its competitor had a similar product classified as machinery five years ago. Since all rates are published, the company is losing thousands of dollars annually because the traffic manager has fallen behind in his reading.

What makes the traffic or transportation function a fascinating field for students of management is, of course, its undeniable importance to over-all company operations. That importance grows as a company's source of supplies and its distribution area expands. To many students, it appears as though traffic management is in a transitional phase. Many traffic managers are still functioning as rate clerks, nor will management permit them to be more. Other traffic managers, in companies of equivalent size in the same industry, wield influence that would have been inconceivable 20 years ago. The "traffic manager" of St. Regis Paper, for example, is a vice-president and a member of the board of directors.

A notable instance of what might

be termed the final phase of traffic management assimilation by the corporate structure is in Lever Brothers (see page 80) where the "traffic manager" is, as he puts it, "in charge of movement." Every element affecting the movement of raw materials or finished products, except only that intraplant movement directly related to manufacturing processes, is under his direct or functional control. That includes all warehousing, materials handling, packaging, and the purchase, operation, maintenance, and disposal of about 1,100 companyowned sales vehicles.

Only a handful of companies have accepted this concept to date. Radio Corporation of America, for example, has a vice-president in charge of materials responsible for purchasing, inventory and movement of materials and products. The immediate crying need is obviously for better control of current traffic functions. Meanwhile the trend toward logical consolidation of all responsibilities associated with the movement and storage of materials and products under one executive is beginning to emerge.



If your industrial development includes plant expansion or relocation . . . get ALL the facts NOW on this progressive community of 133,800.

A major port, ample water for processing, plenty of power, gas, nat-

ural coal and oil resources, centralized for economical rail, truck, air and water transportation — Evansville's industries are well stabilized. Pool of dependable, loyal skilled workers available.

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  U.S.A." See us by helicopter!
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137 Locust Street
Evansville 8, Ind.



Man with stapler beats man with hammer 2 to 1

What you see here is a race between a woodworking shop's two best cabinetmakers shown assembling haberdashery shelf dividers. One is doing the job the conventional way, with hammer, finishing nails and nail set. The other is using the new Bostitch T3 Air-Driven Tacker which drives and countersinks nailtype staples semi-automatically.

Results: staples beat nails better than 2 to 1, with cost savings amounting to 50%.

The Bostitch T3 won out on other counts, too. The shop foreman reports staples more accurately placed than nails. And each staple is neatly countersunk, its 3/4" legs pressing outward in the wood to give greater holding power. Pressing the slim nose of the T3 against the work triggers its action, leaves one hand free for positioning and assembly, speeds dozens of nailing jobs.

The new T3 is just one of 800 kinds of Bostitch staplers that cut costs all along the line in factories, shops, offices and stores. To help you pick the right staplers for your fas-tening jobs, Bostitch has 375 Economy Men in 123 cities in the U.S. and Canada-by far the largest and best-trained group of its kind.

Call in your nearest Bostitch Economy Man for a complete study of your fastening

methods. There's no obligation. He'll tell you honestly if stapling can save you money.

Look up "Bostitch" in your phone directory or write us.

Fasten it better and faster with

FREE time and money saving bulletins tell how stapling can cut your costs.

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I want to fasten:

□ wood
□ rubber □ cartons
□ fabric plastics

☐ light metals

☐ leather
☐ roofing

Company\_ Address\_



50%









# ON SCHEDULE! >>



Design and engineering details of the World's Largest Repair and Maintenance Hangar met rigid U. S. Air Force schedules . . . in just 90 days... marking another significant "first of its kind" achievement by Kuljian engineers.

Covering a ground area of over 1,000,000 sq. ft. with perimeter of structure measuring slightly less than a mile, this gigantic hangar represents a new concept of modern facilities in air base design. "Advance" thinking on the part of U. S. Air Force personnel . . . the "know-how" and meticulous planning of Kuljian engineers . . . made possible total integrated maintenance for all types of aircraft on a simultaneous "production line" and "stall" basis. Located at Kelly Air Force Base Texas. Design & construction vision by The Kuljian Corpurate direction of Air Insta-

# ATTENTION - INDUSTRIAL BUSINESS LEADERS

The work performed by The Kuljian Corporation for the U.S. Air Force is typical of the large number and variety of imposing projects for which Kuljian has furnished complete engineering and construction services. Prompt and efficient planning continually play a vital part in Kuljian over-all operations. Seeing to it that tight schedules are met is just another reason why we have been winning new friends year after year.

Whether your industry be Power, Petroleum, Chemical, Processing, Aviation, Textile . . . the wealth of experience gained by Kuljian in these fields can bring you fresh viewpoints . . . new approaches to your problems.

The next time you need outside help, why not contact a Kuljian engineer for preliminary consultation. He will be glad to provide the help you need, anytime . . . anywhere.



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MEXICO CITY . CARACAS . BOGOTA . MADRID . ATHENS . BEIRUT . TOKYO . CALCUTTA . RANGOON

## YOUR OTHER COMPANY DEPARTMENTS:

This executive checklist, based mainly on an analysis of the co-operative functions of Otis Elevator's general traffic manager, C. H. Vescelius, shows the vital services your company should be getting from the traffic manager. How many are you actually receiving?

#### EXECUTIVE AND LEGAL DEPARTMENTS

- Does the traffic manager have intimate knowledge of national transportation legislation affecting the company and does he keep top management informed?
- Does he submit monthly and annual reports which show clearly the amount of internal control he exercises over traffic expenditures?
- Does the traffic manager actively participate in Interstate Commerce Commission rate cases and vigorously negotiate with all carriers on rate and classification matters?
- Is the traffic manager consulted on or does he, himself, negotiate contracts for inland and marine insurance?
- Is the traffic manager permitted to make transportation studies prior to selection of warehouse or plant sites, and does he consult with the legal department prior to completion of public warehouse lease agreements?
- Is he consulted on union contracts involving labor related to the movement of goods?
- Does he work with the legal department to establish the validity of damage claims?
  - Is he responsible for purchase and sale of all automotive equipment?



Hydroscale will save you many times its cost by providing an accurate check on everything you buy by weight! Easily attached to any crane or hoist, it lifts and weighs in one operation-eliminates extra handling, delays and guesswork.

With a Hydroscale you can make practical, cost-saving weight checks any place in your plant-anywhere your hoist will reach! There's a Hydroscale to fit your specific needs. 108 models, 500 to 100,000 lbs. capacity. Start cutting costs in your operation. Get the facts today!

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Hydroway Scales, Inc., 20624 West Eight Mile Road, Department 312, Detroit 19, Michigan

LIFTS AND WEIGHS IN ONE OPERATION

Attractive Territories Available. Write for Details.

### WHAT TO EXPECT FROM TRAFFIC?

Does the general traffic manager negotiate all weight and railroad siding agreements with the carriers?

#### SALES DEPARTMENT

Does the traffic manager work closely with the sales manager to determine what might be called a tonnage distribution policy—in other words ,when rates and service are comparable, to decide which carrier should be used for the best advantage of sales?

Does the traffic manager work with sales to achieve the maximum number of freight consolidations and pooling arrangements; a minimum number of LCL or LTL shipments to dealers?

Does he provide full data on competitors' freight rates and the progress of rate requests which might affect the company's regional distribution pattern?

Does he hold a tight rein on all sales department requests for fast shipments via premium freight and cover all trends in his reports?

Does he actively co-operate with sales to extend the marketing area through negotiations with the carriers for special rates?

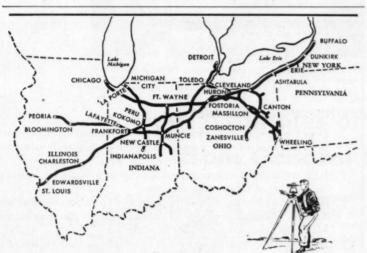
Has he prepared a schedule showing most economic units of sales to various markets on the basis of current rates?

☐ Is he permitted to advise customers on transportation problems?

Does he have full charge and control of all sales vehicles?

Does he check advertising on containers to ascertain that advertising on them does not conflict with the classification under which the product is being shipped?

Is he consulted by sales on long-range planning involving new markets or "crash programs" in existing markets? An increase in tonnage shipments can alter the rate structure considerably.

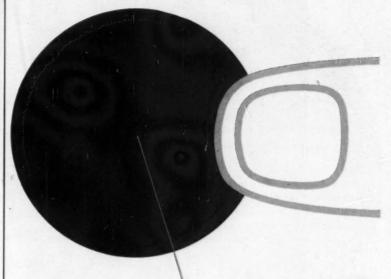


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Let "Nick Plate" send you our detailed and accurate "Along the Line" surveys covering natural and agricultural resources, utilities, labor and other pertinent data relating to each specific location. Just tell us the area or type of location you are interested in. Call or write:

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# THIS FREE BROCHURE WILL HELP YOU CUT MATERIALS HANDLING COSTS

Do you know the many ways in which Pallet Dollies are making unit load handling more profitable?

Alone or in combination with toller conveyors, these versatile accessories are being used more and more to speed up fork truck operation. Why not get all the facts now?



# Learn the answer to eleven tough materials handling problems

This "how-to-do-it", fully illustrated brochure will show you how you can use Pallet Dollies for handling unit loads in and out of motor trucks and freight cars, even where there is no dock or where the difference in height between dock level and carrier bed is a problem; also how they are used to eliminate bottlenecks in elevator operations—and many others. Write for your free copy today.



# ISLAND EQUIPMENT CORP.

27-01 Bridge Plaza North Long Island City 1, N.Y.

PACEMAKERS OF PROGRESS IN CONVEYING AND MATERIALS HANDLING



Continued

### WHAT TO EXPECT FROM TRAFFIC?

HOW	TRAF	FIC	SHC	ULD	CC	O-OPER	LATE	
WITH	THE	PU	RCH	ASIN	GI	DEPAR	TMENT	

WI	THE PURCHASING DEPARTMENT
	Is there regular consultation to determine the most economic purchase quantities in relation to transportation units? Traffic management should audit all inbound freight bills to control this factor. Do traffic and purchasing confer whenever necessary on purchase terms to effect the lowest possible rate—to seize, for example, every opportunity for freight equalization? Are seasonal overflows or emergency storage of materials and components a joint responsibility of traffic and purchasing? Does traffic work closely with purchasing on loss and damage claims, on expediting and tracing shipments of inbound materials? Does the traffic manager use company-owned equipment to carry inbound materials where possible? Does traffic inspect and verify all inbound freight classifications? Vendors do not always describe their products to purchasers' satisfaction, with adverse affect on the shipping costs. Does traffic supply purchasing with freight rates to the plant from alternate suppliers? In some instances, a lower shipping cost may more than compensate for a higher purchase price. Does the traffic manager keep purchasing in touch with developments relating to upcoming rate or classification changes, or with the possibility of labor trouble affecting inbound shipments?
FIN	ANCIAL DEPARTMENT
TIIV	
	Does the traffic department prepare full data on the following: All freight bill audits? Duplicate payments? Vendor transportation charges? Claim collection? Carrier credit arrangements?
	Transportation costs analysis? Tonnage reports?
	Automotive equipment operation costs?
PRO	DDUCTION DEPARTMENT
	Does the traffic manager work closely with production management to co-ordinate arrival of cars or trucks for loading with actual production? Delays add to demurrage, raise costs.
	Is the traffic department permitted to advise or to supervise the design
	and packing of all shipping containers?  Are all markings on finished products and containers checked with traffic to eliminate possibility of conflict with freight classification?
	Has traffic compiled a marking manual?  Does the traffic department have at least functional supervision of all
	transportation among buildings at the same site?
	Does traffic have functional or direct supervision of all materials-handling labor and equipment related to the movement of materials or finished goods?
	Does traffic have functional control or advise on production material
	waste disposal activities involving pick-up, assembly, and shipment? Does traffic monitor all carrier pick-up service closely? Does traffic, before decisions are finalized, prepare studies for all future plant locations? In such studies, does traffic make full use of site studies made by the carriers and by public agencies?

Does traffic work with production on redesign of products or packages when excessive damage has been reported during shipment?

Does traffic require more status to make recommendations for proper operation of the shipping and receiving departments so that products

and materials move in a steady flow?



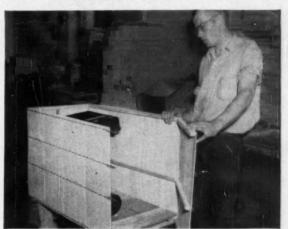
Porcelain Insulators container saves 25% of over-all packaging costs, High finish, hard-to-pack items like these become easier to pack with positive product protection in General Box engineered containers.



Pressure Sterilizer container saves 17% of cost of packaging materials, 60% of packaging time, 9% of shipping weight. Customer uses eleven other General Box engineered containers.



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Control Valve container eliminates complicated blocking that required 71 nails; cuts packing time 60%, shipping weight 10%, cuts container costs \$1,500 to \$2,000 in year.

# Four examples of engineered savings from General Box Laboratories

These are results obtained by practical, imaginative container engineers who have the finest of design and testing facilities to work with. They create custom-designed containers for dozens of different products, month in and month out.

Chances are it will pay you well to find out how much better your containers can be. It's easy to do. Best and fastest way is to have a General Box man call. There's no obligation. Consult your local directory, or

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write direct. Ask for free copy of illustrated booklet, "The General Box."

Factories: Cincinnati; Denville, N. J.; East St. Louis; Detroit; Kansas City; Louisville; Milwaukee; Sheboygan; Winchendon, Mass.; General Box Company of Mississippi, Meridian, Miss.; Continental Box Company, Inc., Houston.

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\* \* \* \* \*

# "Don't buy corn east of Pittsburgh in April"

A case history that shows how close cooperation between Production...Sales...Purchasing and Traffic ...saves an industrial company up to \$400,000 a year on one shipping operation!

# The Wooden Indian that Came to Life

The Traffic Manager was intended to be more active than a "cigar store Indian."

Up to a few years ago this large manufacturing company handled traffic as a purely clerical function of the accounting department. The only reason it created the post of Traffic Manager was that the General Auditor grew tired of being polite to traffic exicitors. As the present Traffic Manager puts it, "Somebody had to talk to the visiting solicitors, so the Traffic Manager was just a sort of cigar store Indian."
"Rates are all the same," the Auditor told him. "They are set by the Government."

Then A Live Wire Got the Job

Then A Live Wire Got the Job But presently there came to the "wooden Indian" post a man who was not content merely to sit and listen. He studied rates and rules and routes. Through application of his expert knowledge he was able to show a saving in transportation costs running into several hundred thousand dollars a year. Then, in cooperation with the other departments involved he worked out a new distribution set-up with A regional warehouses. Carload shipment gave a freight saving that offset the wavehouse cost, so the company was able to give its customers prompt delivery at no added expense.

Today the Traffic Department enjoys equal status with Sales, ingineering, Purchasing; and its head sits with the other depart

1953

1952

1954

As one of the great carriers of merchandise freight, the C&O sponsors this campaign in the belief that a better understanding of the Traffic Manager's job will contribute to the better and more economical movement of material.

# 1955

## C & O sponsore this campaign in the belief that a strong and efficient transportation system is essential to the nation's growth and prosperity; and that sound transportation policy must be founded on public understanding.

## Let's stop patching the patches

America's transportation system is operating under a code of regulations that was originally written in 1887. Since then the era of the electric lines has come and gone. Since then have come the automobile, the bus, the truck, the airplane. Still we try to regulate transportation according to 1887 ideas.

Today a new generation of Traffic Managers with scientific training and a professional approach are developing new techniques of transportation that are in step with our modern techniques of manufacture and merchandising. But in doing so they are constantly bumping their heads on these antiquated regulations.

Let's give them a chance to bring transportation up to date. Let's stop patching a garment that previous generations have worm out and outgrown. Let's ask Congress to scrap our 1887 breeches and give us a 1985 model.



## Chesapeake and Ohio Railway

TERMINAL TOWER, CLEVELAND 1, OHIO

## The director of traffic is playing with blocks again

With the blocks he is demonstrating to Sales and Production that a change in the shape of the packing case will let the cases stack in an interlocking pile.

Because the tases states in an intertocking pile.

Because the interlocking piles are far stronger they can be stacked three pallets high instead of two. This means half again as much goods can be stored in the same warehouse space. It also means less breakage and damage to containers so the packages reach the dealers' shelves in a more attractive condition.

Will Sales and Production buy this idea?

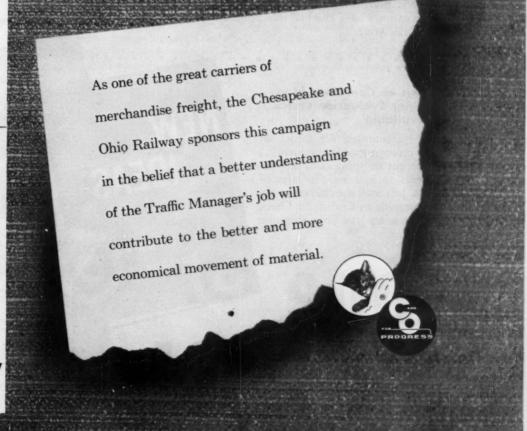
Yes! Because Traffic has backed it up with figures showing an annual saving several times the cost of the proposed changes.

At the same time, the incident of the blocks demonstrates another valuable lesson: A business organization is strongest when Traffic interlocks with Sales, Purchasing, Production and Advertising, so that each contributes of its special skills and knowledge to the better function-

This result can be best achieved when the Traffic Executive operates at the same management level as the heads of these other departments.

## Chesapeake and Ohio Railway

TERMINAL TOWER, CLEVELAND 1, OHJO



You

owe it to your

business

to know about

these



New "Multi-Tone" printing process for product illustrations on containers . . . now even color halftones are possible. Makes every container shipped a travelling billboard.



New modern background textures in a complete range of colors can now convert your shipping containers from a drab box to a prestige-building gift package.

## NEW CONTAINER IDEAS

that cut packing and shipping costs... help increase sales

New developments in corrugated containers make it imperative for you to re-examine your shipping and packing problems! Your containers offer a too often overlooked opportunity for worthwhile packing economics and dynamic help to your advertising, merchandising and point of purchase display at practically no cost. Many of the largest users of containers in the country have checked into Stone's new ideas and benefited greatly. Why not you?



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Now ready is a complete file folder kit of new ideas on corrugated containers . . . ideas that can cut shipping costs and enable containers to increase the sales of your product. Just mail the coupon to get your kit along with an Evaluation Check List to help you analyze your shipping containers.



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and

## Five Companies realize traffic's potential—Here's How

Do your production, sales, purchasing, and traffic departments

work as a team? They do in these companies and the results show up in
satisfied customers, higher sales, and savings of thousands annually.

IT IS not necessary for traffic management to have a high corporate status, but it frequently helps. The growing concept of enlarged service functions or the advisory capacity of the traffic department is an empty idea when the traffic manager lacks the authority to function in this specialized field. Without exception the companies analyzed in this article have given the traffic manager sufficient status to facilitate co-operation with other company departments.

In the Eastman Kodak Company the general traffic manager, Kenneth Jamieson, reports directly to the vice-president and general manager. Over the past two years, the traffic de-

partment managed to save well over \$1.5 million. To a large degree, these savings were possible because of excellent high-level co-operation among traffic, sales, and purchasing.

Technically, traffic management at Kodak assumes responsibility for a shipment of goods at the door of the shipping department and is relieved when the consignee receives the shipment. Actually, the services of the department extend far back into purchasing, into packaging and packaging design, and forward into sales planning, new plant and distribution-center location studies, and even into such areas as dealer relations, where shipping savings earn good-will.

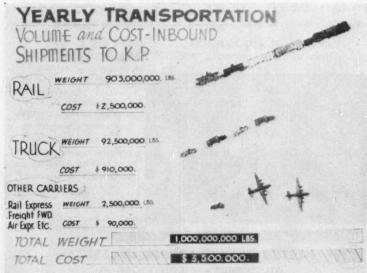
In the traffic department's 1953 annual report

to management, for example, is a paragraph of enormous, though understated, significance for sales management:

"In collaboration with the Chicago Branch Traffic Manager, the possibility of establishing pool truck distribution rates to additional points in the Chicago Branch territory was explored. This activity resulted in the establishment of commodity rates on mixed truckload shipments. The regularly scheduled pool truck service has been established during the year from Chicago to those additional points. From the Chicago Branch, dealers and stores located in fifteen cities are now served by pool trucks. This method of shipment lowers the transportation costs



How the purchasing department can cut costs in Eastman Kodak is shown graphically in charts prepared by the traffic department in effort to encourage closer interdepartmental co-operation. Routing in pool trucks from Chicago area alone to Rochester, N.Y., saved over \$15,000 in 1953.



Inbound shipment cost trends show purchasing relative shifts in volume and costs, are accompanied by detailed charts showing penalty costs of shipping less than car or truckload and of emergency ordering, points up value of liaison among purchasing, production, and traffic departments.



## **MULTI-PURPOSE CONVEYORS**

Modern industrial conveyors are frequently designed to accomplish more than one useful production operation.

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cialists for years-their installations include various types of conveyors, multiple transferring equipment, and highly engineered, fully automatic material handling systems.

If you are faced with a peculiar kind of material handling problem, you can confidently expect Allied to come up with a dependable and efficient solution.

PIONEERS IN AUTOMATION . . . the design and fabrication of fully automatic material handling systems



One example of highly specialized Multi-purpose Equipment is this combination Tire Inflater, mounter and conveyor, designed and built by Allied for an automobile manufacturer.

For further information request Allied Catalog 953



## LLIED AUTOMATION DIVISION

ALLIED STEEL and CONVEYORS, INC.

17367 Healy Avenue, Detroit 12, Michigan

in excess of \$110,000 under charges applicable if such shipments were forwarded as single shipments direct to the consumer via less-truckload, express, freight forwarder, or parcel post services. Pool truck operations from New York resulted in a savings of \$19,199; and from Dallas, \$17,598,"

The key fact about these savings in excess of \$146,000 is that the money was saved for the dealers who pay shipping charges from the regional branches. Under the former routing arrangement, dealers received in some cases almost daily shipments from the branch office and paid for the convenience.

Working with the sales department, traffic management was able to show the dealers that with better inventory planning they could operate with fewer and cheaper shipments. They showed, for instance, that on shipments of photographic supplies alone to one Detroit dealer annual savings would amount to \$3,500.

Opportunities to expand the freight pooling plan are under review on three fronts; shipments to branches, from branches to dealers,

and on all inbound shipments as well. The pay-off is in lower dealer costs and creation of a sales-conscious traffic team.

Each of these techniques was developed with close sales management co-operation and the field sales staff has built into its presentations the full story of extra dealer profits. Mechanically, pool trucks and consolidations require tight liaison among the branch sales and traffic departments.

Another key area where the traffic department and sales work closely together is in the selection of new sites for plants and branch operations. Last May Eastman Kodak opened a sales division and processing station in Chamblee, Ga., a suburb of Atlanta, Selection of the site was a product of joint studies made by sales, engineering, and traffic. The initial decision to locate in the Atlanta area was sales management's, based on current demand and sales potential. The final decision, however, hung fire until the traffic department was able to determine whether the Rochester plant could ship to the Atlanta area competitively and whether rail



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## Here's the middle-sized town—right site for your plant!

• Where are the new plants going? Figures show that the middle-sized town is getting the major share because of its opportunities for better living for all personnel.

These pictures from middle-sized towns in the Erie Area, give you some idea of their better life. Their social and recreational facilities make for better human relations—an intangible that finds its way into the company's balance sheet.

Then, of course, industry has room to grow in these middle-sized towns in the Erie Area that fit in with the Government's Dispersal Program.

The Erie Area is in the heart of the nation's largest single market. One-third of America's people live,

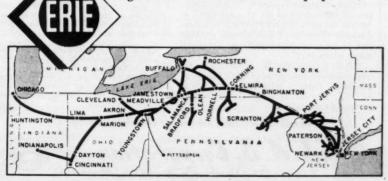
work and buy here. Raw materials, production and markets are close together.

Industry is served by the dependable Erie Railroad which offers unsurpassed service between New York and Chicago and nationwide by connecting railways and connects direct with New York Harbor for export business.

Our experienced personnel will be glad to discuss desirable locations with you—in strict confidence, of course.

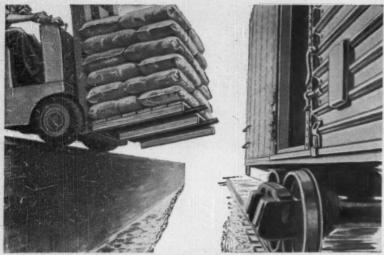
## Erie Railroad

SERVING THE HEART OF INDUSTRIAL AMERICA



D. M. Lynn, Assistant Vice Pres Industrial Development, Room Midland Building, Cleveland 13	531-A Erie Railroad
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City	Zone State

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## HAVE YOU TAKEN ACTION?

to rid your docks of this big obstacle to SAFER FASTER LOWER COST loading!

MAGLINER MAGNESIUM DOCK BOARDS HELP MANAGEMENT ACCELERATE SHIPPING-RECEIVING FLOW AND INCREASE DOCK CAPACITY . . . WITHOUT CAPITAL COST!

## LOADING IS FASTER BECAUSE ...

Magliner dock boards are custom engineered for your docks, your equipment, your loads . . . to provide a safe, smooth transit-way between dock and carrier. By effecting major reductions in loading time, they speed in-and-out shipping, and greatly increase dock capacity!





## LOADING IS SAFER BECAUSE . . .

Cross-over is safer for men, loads, and equipment! Magliners automatically adjust to every change in height difference due to truck spring deflection under load—thereby insuring added safety and sure-footedness for power trucks. A one-man handling job, Magliner magnesium dock boards provide the strength of steel at only 1/3 the weight!

## LOADING COSTS LESS BECAUSE ...

Faster loading saves manpower and dock time! With Magliners on the job, unit loading costs drop rapidly. Initial costs are less too! Magliner magnesium dock boards are but a fraction the cost of other types of dock-leveling equipment. And Magliners are movable—can be job-spotted anywhere on the dock!



## MagLiner



MAGNESIUM DOCK BOARDS

### FOR RAIL OR TRUCK GET THE FACTS TODAY!-

### Please send me complete information on Magliner Dock Boards for: RAIL DOCK TRUCK DOCK YARD LOADING

MAGLINE INC.

P. O. Box 350, Pinconning, Michigan

and postal facilities were adequate.

Negotiations with the carriers were carried out and completed before a decision to build was made, not, as in many companies, while the structure was being erected. Traffic department studies showed that the competitive rate position was O.K. and shipments could be made by negotiating rate adjustments with carriers. Result: sales management got a new branch location and shipping costs to Chamblee were reduced about \$70,000 for every ten million pounds shipped.

The influence of the traffic department reaches equally far into production and purchasing. For instance, any new package design or proposal must be okayed by the general traffic department. If a product shows signs of stress or damage during shipment, traffic makes recommendations for redesigning the product after investigating the packaging and handling en route.

Recently, the general traffic manager met with the purchasing heads of Kodak's five Rochester plants. He told them, in essence, that he wanted to improve the service function of the traffic operation and

that he was anxious to trade information on suppliers. He showed how, by exchanging data, he could improve purchasing's records on their suppliers. He could, for example, if he had intimate knowledge of their purchasing data, give them transportation cost figures from alternate supply sources where, although the cost per pound might be 2 cents higher, the shipping costs might be 5 cents less. He briefed them on the progress of pool car and pool truck savings, showed the effect on inbound materials costs of buying full carload or truckload over LCL or LTL. Purchasing now has more initiative in dealing with suppliers.

These examples show only a handful of the many benefits top management at Kodak receives from intelligently directed traffic management. Placing the general traffic manager at a level where he reports directly to the top vicepresident; putting him on executive committees directly or indirectly affected by transportation are important, basic steps in coordinated general management.

Page 80, Lever Brothers



ting shipping losses to the very minimum. In addition, this equipment permits them to develop the most economical shipping container that will do the required job another important saving. Often, unsuspected weaknesses of the product itself, as well as the package, are revealed by L.A.B. Package Testers. Pre-shipment package testing in your plant will pay for itself many times over.

L.A.B. incline-impact ("conbur") testers

and vibration testers range from 400 lb. to 10,000 lb. capacity with table sizes up to 8' x 12'. The L.A.B. Drop Tester handles packages up to 100 lb.

Typical L.A.B. Package Testers

Incline-impact tester shown (left) has a capacity of 600 lb. Vibration tester (right) has a capacity of 1000 lb. and can be set for a variety of motions to duplicate freight car or motor truck vibrations and shocks.

L.A.B. Package Testing Equipment was instrumental in developing test procedures of the National Safe Transit Committee and the American Society for Testing Materials. L.A.B. equipment meets all requirements of these procedures.

For full information, ask for our complete catalog.



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## HOW to get rid of these SIX BIG HEADACHES in your business

- 1. Huge capital investment in trucks
- 2. Costly truck breakdowns
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- 4. Truck maintenance worries
- 5. Expensive bookkeeping on trucks
- 6. Handling of peak loads

If yours is like most companies, chances are you're constantly faced with the six big trucking problems listed above. But now you can solve all of these problems simply...quickly with Hertz Truck Lease Service, the oldest, largest truck leasing organization with 31 years' experience. This service is easily available to you no matter how big or how small you may be. It's extremely flexible: you may use all or any part of the benefits listed below, or you may add others which are not shown. And Hertz Truck Lease Service is available to almost every type of business: Among Hertz Truck Lease customers, for example, are manufacturers, wholesalers, distributors, retailers—restaurants, laundries, cleaners and dyers, department stores, grocers, specialty shops and many more.

### Here's how Hertz Truck Lease Service works for you:

- 1. No capital investment—Hertz Truck Lease Service supplies all the trucks you need. Releases your capital for other company finance needs.
- 2. Hertz will buy your present trucks at mutually agreed prices, and keep them in service; or, if worn out, will replace them with Fords or other fine trucks.
- 3. Hertz services all trucks—Hertz washes, garages, repairs, maintains all trucks in top condition. Furnishes anti-freeze, tires, etc.
- **4.** Trucks engineered to your needs—Hertz supplies the exactly right trucks for your precise needs, whether you need one truck or one hundred. Our truck engineers are at your service.

- 5. All gasoline, oil, etc., supplied by Hertz—You furnish one thing only—a driver. Hertz takes care of everything else.
- **6.** Insurance protection provided to suit your needs. If you prefer, we will place the policies through your own broker or agent.
- 7. Extra trucks when you need them. In case of peak periods or rush loads, Hertz supplies extra trucks.
- 8. Easier bookkeeping for you. Instead of many bookkeeping items you have only the one bill sent by Hertz. It saves you the time and expense of keeping reports and cost sheets of numerous items for servicing, gasoline and oil, repairs, etc.
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Need a car? Hertz has them, too! Low rate includes gasoline, oil and proper insurance. Call your local Hertz office.

## LEVER BROTHERS COMPANY: A TRAFFIC MANAGER'S DREAM

The trend at its logical peak.

"I hope to see the traffic manager, or distribution manager of the future, responsible for all those expenses which add to the cost of the product but not to its original, basic value. I believe that packaging, materials handling, warehousing, transportation, and distribution are so closely interwoven as to make it mandatory that a total picture be portrayed of all these expense factors before one can determine the proper solution in the movement of goods."

Speaking, apparently in Greek so far as most traffic managers are concerned, is the General Manager of the Distribution Division of Lever Brothers Company. So far as he is concerned, the responsibilities are an accomplished fact.

Lever Brothers assigns responsibilities to R. C. Waehner that, in a typical plant, would be spread out over at least four major company departments. A fast outline of the General Distribution Division Manager's chores and responsibilities would run like this:

- All transportation, warehousing, and materials handling involved in the receipt and eventual delivery of packing materials and sundry raw materials to the location where needed on the production line.
- All transportation, warehousing, and materials handling incurred after finished goods leave case sealer until they are delivered to customers nationally.
- All transportation of personnel incurred in the discharge of their assignments; including travel by commercial carriers and the purchase, operation, maintenance, and disposal of approximately 1,100 company-owned sales vehicles.

In effect, this means that Lever Brothers' transportation executive probably works closer with other executive departments than any traffic executive in the country. With Sales Management he thrashes out deficiencies in customer service, areas of planned sales activities requiring special distribution arrangements, changes in service requirements, and the practicality of proposed distribution methods.

He confers with Research Management to develop improved packaging, package and case design of new products; and provides technical assistance on weight maximums of various case packs as related to warehousing and distribution.

Production Management and Distribution Management discuss proposed production schedules; low inventory levels which might require emergency production; points of production from the viewpoint of penalty distribution costs are determined along with mechanical problems involved in storing and shipping production output.

Conferences with Finance Management involve accountability of stocks, accounting procedures and methods of getting better internal or external control of distribution accounts receivable and payable.

Planning layouts of new warehouses and improvements on physical properties which will reduce distribution costs involves collaboration with *General* and *Industrial Engineering Management*.

Conferences with *Purchasing Management* determine purchase commitments of packing materials and sundry raw materials; provide specifications on packing materials and suggest methods of achieving the lowest net delivered price.

Contacts with the Board of Directors include a periodical report of current distribution economy, recommendations for the geographical location of future production facilities, and budget sessions for the approval of capital expenditures.

In addition to these, the General



Manager is a member of the Packing Committee, attends meetings of the Planning Committee (Merchandising, Manufacturing, Purchasing, and Distribution Division heads) and of the Management Committee which includes all of the company's top officers.

A few more examples will illustrate the amazing amount of varied responsibility top management invests in "traffic" at Lever Brothers.

The division receives production schedules in advance, determines the materials necessary to meet them and delivers them from storage to the point of use on the production line to maintain the predetermined rate for each brand.

Distribution receives daily a list of all orders processed throughout the company. These are subtracted via punched cards from the total stock available, leaving a balance of "unreserved stock" which is analyzed by the stock control section and compared with production schedules.

When storage facilities are at capacity, the General Manager determines jointly with sales and manufacturing whether to continue production and buy public warehouse space or whether to slow down production.

Mr. Waehner's division also recommends and approves the type and amount of materials-handling equipment needed—a radical departure from typical practise in industrial management.

To control these functions, the division is set up in six sections. The Stock Control and Warehousing group determine the quantities of stock that must be maintained at each plant and distribution warehouse to meet sales requirements. They also control the selection and physical operations of all warehouses.

The Transportation and Rate Section audits all transportation charges and handles all appearances before the regulatory agencies.

The Distribution Analysis Section reviews all methods of distribution to determine whether a better method exists. The Import-Export and Reservations group is self-explanatory, but this group also operates the fleet of 700 tank cars.

The Invoicing Section is responsible for the payment and review of

Continued on page 84



Barrett PalletOx Model PX 4" lift cap. 4000 up to 6000 lb.

## BARRETT PALLETOX

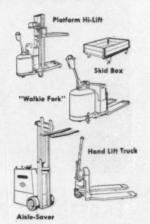
the low-cost "walk away" for loads up to 6,000 lbs.

Barrett PalletOx walking type power lift truck is a money-saver on short hauls... load spotting...general pallet handling. Often eliminates expense of rider type power truck operation. PalletOx is made for fast operation—gets into tight corners—short turning radius—no lost-time gaps to slow down handling. 4" lift prevents floor snagging. Write for complete descriptive literature.



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High labor costs demand specialized equipment. There is a Barrett-built unit specially designed to handle any moving job at low cost... even when operated by less experienced help.

erated by less experienced help. Your Barrett representative will gladly assist in selecting the type and model of material handling equipment best suited to your needs.

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NEW YORK, N. Y.

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Especially equipped to consult with Management on problems related to—

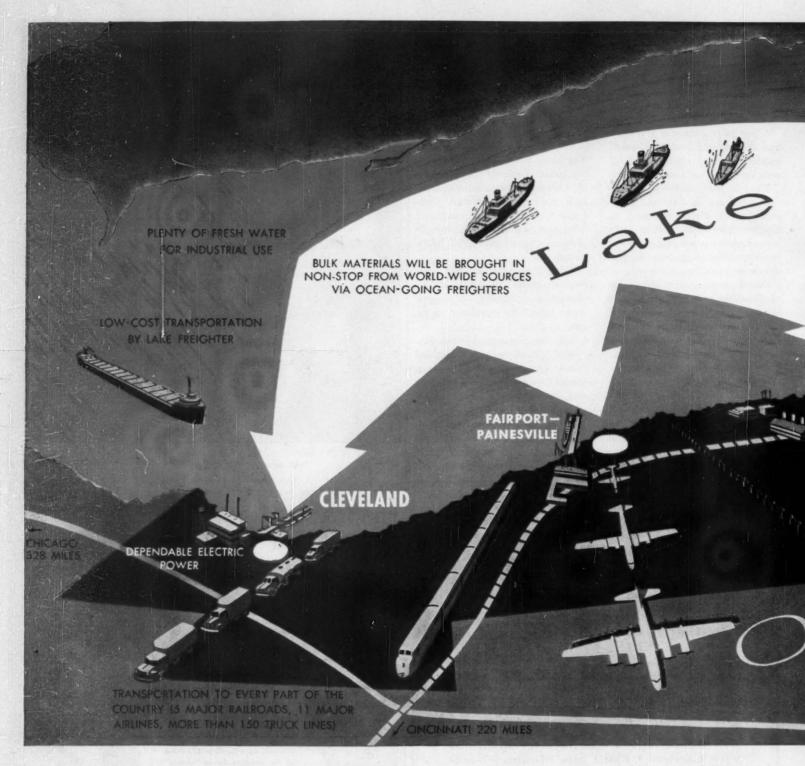
## TRAFFIC and TRANSPORTATION

Organizing for Effective Traffic and Transportation Services • Reduction of Excessive Costs in Traffic and Transportation • Simplification of Traffic and Transportation Procedures • Classification Research and Rate Adjustments • Elimination of Excessive Demurrage • Commercial Relations with Carriers • Plant Site Studies—Warehouse Locations

Manager Traffic and Transportation Services WESLEY H. LEES

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Marketing, Product Diversification and Acquisitions; Cost reduction programs; Systems, Procedures and Data Processing; Executive and Supervisory Development; Executive Appraisals and Compensation programs; Business studies and Organization reviews.



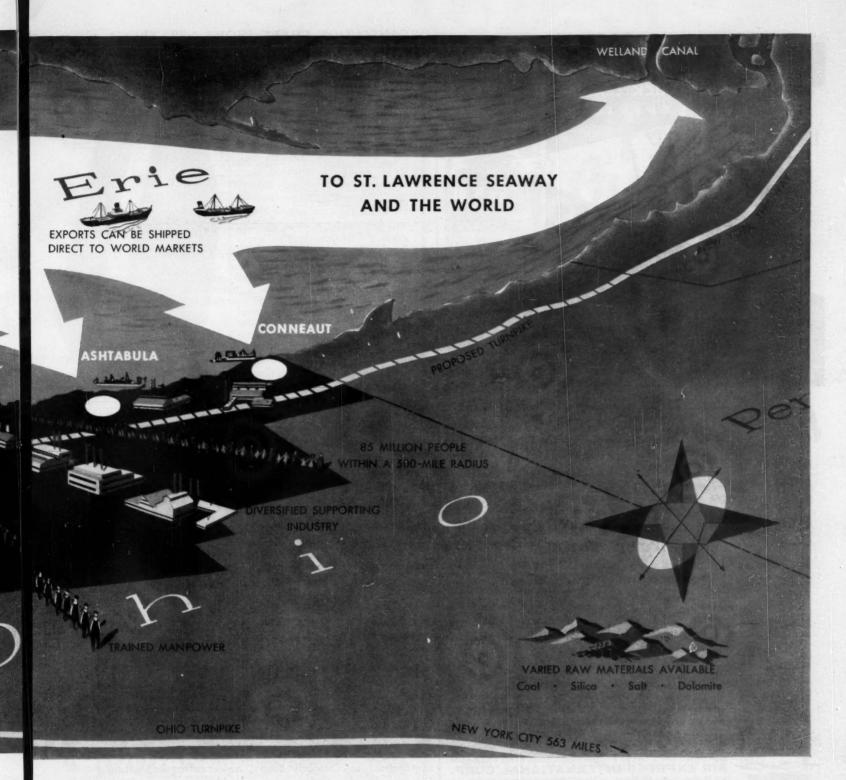
## St. Lawrence Seaway makes possible...in Northeast Ohio...

THE BEST LOCATION IN THE NATION IS NOW BETTER THAN EVER! With the St. Lawrence Seaway, a long-time dream of industry is now about to come true. For the first time in history, industry will be able to have the advantages of a "heartland" location—in the midst of the nation's greatest markets and resources—combined with low-cost ocean shipping to or from anywhere in the world!

This new frontier of opportunity is shown in the map above. Within a

500-mile radius of this Northeast Ohio area are over half the people in the country—eleven of America's fifteen largest cities. At hand, or within a short haul, are most of the basic materials of industry . . . fresh water, coal, iron, salt, limestone, and many others. Even without the Seaway, the advantages of "the best location in the nation" are so great that two billion dollars have been invested here in industrial expansion since 1944.

With the Seaway, its advantages will be even greater. Bulk materials



## plant-location opportunities never before equalled in America!

can be brought in directly by ocean freighter at minimum cost. Manganese, phosphates, and other raw materials for the first time can be economically processed in the midst of the markets where the finished product is consumed. And heavy machinery can be exported to world markets at lower cost. With the Seaway scheduled for completion in five years, the time to plan for a plant location along Ohio's "Seaway Shore" is during this coming year. We will be glad to help you do it.

NEW FILM SHOWS ADVANTAGES OF PLANT SITE ON OHIO'S "SEAWAY SHORE". A factual, 28-minute sound movie in color. To arrange a showing for your key people or industry group, write in confidence on company letterhead to R. L. DeChant, Manager, Development Department, The Cleveland Electric Illuminating Company, 85 Public Square, Cleveland, Ohio.

The Cleveland Electric Illuminating Company



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### Partial list of contents ...

- Rate Comparison Charts showing airfreight rate savings
- Feature Articles giving valuable pointers on world trade
- Information on your specific industry where applicable

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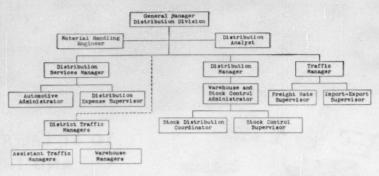
and Surface Freight Corporation (FAMS 589)

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## ORGANIZATION CHART SHOWS NEW TREND



A possible prototype of future traffic organizations for many larger companies is shown above. In smaller firms, more responsibilities would be combined under one hat but the over-all centering of responsibilities would remain. Basic management concept is that one executive should be responsible for *all* movement of goods and materials, all materials handling and storage involved, except in production.

all invoices covering movement of materials from the suppliers to the plants to storage to the customer. The Automotive Section has full responsibility for procurement, operation, maintenance, and disposal of the automobile fleet.

In his reports to management, Mr. Waehner carefully edits out technical traffic data. His quarterly report usually covers first the general economic conditions in his field, then the broad labor situation. In showing the accomplishments of the past quarter he places no particular stress on the number of

successful rate negotiations which compose 90 per cent of many traffic reports. "It makes little difference to management," he says, "what the rates are to us so long as they apply to our competitors. Our job is to get the most efficient combinations of plant and warehouse locations and forms of transportation." Forward planning completes the report and this section is developed out of weekly meetings with his staff and from quarterly reports submitted by that staff and from the district traffic and warehouse managers.

## HOW CAMPBELL SOUP GETS TOP-MANAGEMENT TRAFFIC CONTROL

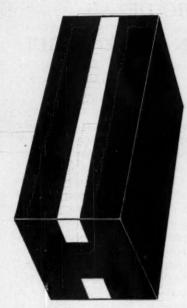
The secret is graphic reports.

About eight years ago traffic management at Campbell Soup Company, Camden, N. J., began to feel uneasy about their reports to management. They had a feeling that the reports, which, like the vast majority of traffic reports that management receives, resembled an accounting statement, were not designed to be read and consequently were not being given full attention. Like most traffic reports again, their real significance could only be ferreted out and understood by traf-

fic analysts. And because the major report at that time was the annual, it hit management simultaneously with reports from other company departments which compounded the felony.

The solution developed by Leslie High, Campbell's general traffic manager, resembles a hybrid cross between a *Kiplinger Letter* and a sales forecaster's report to the boss.

The basic document is now a monthly report to the production vice-president which appears about



## TWO STRIES IN PLACE OF SIXLE

Because of its unusual strength, only two strips of TROJAN Cord Tape are required to seal many boxes. This saves the time and labor of applying the four additional strips used in a six strip closure. Let us send you full information about TROJAN Cord Tape, the official railroad, truck, express and parcel post box sealing requirements, and the name of a local paper merchant who can supply



The GUMMED PRODUCTS COMPANY
Specialists in the gumming of printing papers,

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the middle of the month and covers the previous month's activities.

The style is terse and staccato. A typical report begins with a banner headline spread across the top of the page: "Tonnage rises sharply as average freight rates decline!" Then, under the smaller caption "FREIGHT RATES" comes the lead sentence which shows the trend instantly: "A glance at the average cumulative freight rate of Chart I reveals a downward trend. The December figure is 1 cent lower than the previous month and continues to decline from the year's high in October."

Traffic divides its report into these analytical sections: freight rates, case delivery costs, tonnage, freight costs, LCL, interplant shipments, and a general category which may include, for instance, impending legislation affecting traffic.

Each section is developed much like a news report. The conclusions and current status are explained first, followed by a summary of recent developments immediately preceding the newest situation. Last is a section captioned "History" which presents the full background up to the point of the summary.

## Graphic Control

A major contribution to management decision-making is the system of graphic reporting which accompanies the textual outline. For each subject covered in the report, Mr. High has prepared a graph which shows the historic trend in colored lines, bars, or pie charts, in many instances as far back as 1926. Other charts show comparisons with the previous month or year and projected trends. One chart showing LCL trends, for example, has built into it a "danger zone" or maximum line. When the LCL percentage bars begin to approach the line, it is a clear signal for management to begin consolidation or other corrective action.

Other significant trends charted for management appraisal underline fluctuations in the average freight rate, the spread between the carriers' general average level and the Campbell average since 1926, showing roughly how the national average and Campbell's costs have varied.

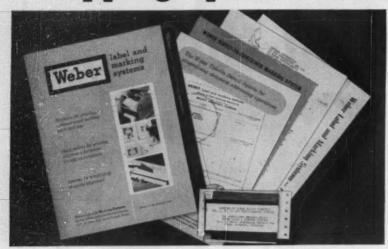
Next page, U. S. Rubber



Along the 13,076 miles of track Santa Fe operates in the west and southwest we are ready to spot your freight shipment—where you want it, when you want it!

There are 61 Santa Fe Offices from 'coast-to-coast' with one in your territory as near as your telephone. Call today.

## How to modernize your shipping operations



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Cost-conscious firms have discovered that the key to efficient shipping and packaging operation is a fast, lowcost system for addressing and marking containers. That's exactly what this File-Folder Kit is about.

Described and illustrated are systems that make shipment addressing and product identification marking faster, cheaper and more accurate. You'll see how addressing operations can be tied-in with the preparation of shipping paperwork, and how the

entire chain of events leading to the addressing and marking of your shipments can be streamlined. And there are also product samples that you can try out!

Never before has so much factual information been offered on this important subject—and it's all yours without charge or obligation. Make sure you get your Weber Label and Marking Systems File-Folder Kit right away! Simply fill out the coupon below and mail—today!



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- Please send me a Label and Marking Systems File-Folder Kit.
- Also, we would like to talk to your representative as soon as possible about improving our shipment addressing and marking operations, and simplifying our paperwork.

Company	Age to	PRO US	
Individual			

The same of the sa

Title\_\_\_

Address

City\_

one\_\_State\_\_

## **GOLD MINE** in transit

## HOW MUCH TRAFFIC DETAIL SHOULD MANAGEMENT GET?

At U.S. Rubber they want and get the works

e was 84 per cent, which con

Director of Traffic J. W. Harley reports orally twice a year to the Executive Committee, headed by U. S. Rubber's president. Once a year he talks with the General Managers' Committee. But the nexus of the reporting system and the basis of management control lies in the data outlined to the right.

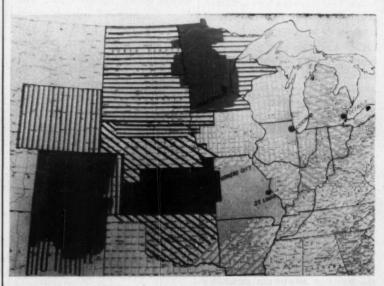
That chart, which is submitted to the Executive Committee monthly and provides the material for the annual report, represents a complete breakdown of every traffic activity. The extra control it gives to top management and to traffic management is suggested by the fact that, in 1954, the general traffic department saved \$2.360.000 net.

It permits traffic to use such devices as an "efficiency figure" which indicates the percentage of tonnage, by product or material, moving in full car or truckloads. In 1954, for example, the over-all efficiency fig-

ure was 84 per cent, which contrasts with a low point of about 36 per cent efficiency nearly a quarter century ago.

In addition to the statistical data at the right, management examines a number of vital ratios. Here are some of them: the per cent of transportation (or traffic) costs to total sales; the percentage division of the transportation dollar among rail, truck, water, air, express, parcel post, and carloading companies; relationship between successful rate negotiations and the value of the product and total savings in relation to the cost of operating the department.

Full case histories of all important savings, but not routine ones, are included along with analyses of any trends of national importance to transportation. "Actually," says Mr. Harley, "we just show how we control expenditures."



What can traffic do for sales?

Prime example is distribution pattern on map-chart (above) prepared for U. S. Rubber's top management. By negotiating special carrier commodity rates and consolidating freight, economic shipments from Naugatuck were extended from solid areas to 100 per cent bigger area in striped outline.

### RAIL CARS HANDLED

- a. Inbound
- b. Outbound
- c. Total cars handled

### TONNAGE RECORD

a. Domestic Inbound

Outbound

Total domestic tonnage

b. Export and import Inbound

Total export and import tonnage

c. Combined total all tonnage

## CAR AND TRUCKLOAD CONSOLIDATIONS

a. Factories

Number of consolidations

Savings made by consolidations

b. Non-manufacturing Number of consolidations Savings made by consolidations

c. Inbound raw materials

Number of consolidations

Savings made by consolidations

d. Total savings by consolidations

## TRANSPORTATION COSTS

a. Inbound
Rail
Truck
Carloading company's
Water carrier—Domestic
Import

Airlines—Domestic
Import
Express—Domestic

Express—Domestic Import

b. Outbound
Rail
Truck
Carloading company's
Water carrier—Domestic
Export

Airlines—Domestic Export

Express—Domestic Export

Parcel post c. Factory transportation cost

d. Branch transportation cost e. Total transportation cost

### NUMBER OF FREIGHT BILLS AUDITED

### SAVINGS EFFECTED

a. Freight bill audit before paid b. Audit of vendors' invoices

c. Total recovered by factory audit

## CLAIM STATUS

a. Factories

Loss and damage
Amount of claims

Amount of claims entered Amount of claims collected Amount of claims cancelled Amount outstanding

Overcharge

Amount of claims entered Amount of claims collected Amount of claims cancelled Amount outstanding

b. General traffic department
Loss and damage
Amount of claims entered
Amount of claims collected
Amount of claims cancelled
Amount outstanding

Overcharge

Amount of claims entered Amount of claims collected Amount of claims cancelled Amount outstanding

Reparations

Amount collected Amount cancelled Amount outstanding

c. Audit Bureau
Amount of claims entered
Amount of claims collected
Amount of claims cancelled
Amount outstanding

d. Total amount claims outstand

### **DEMURRAGE CHARGES PAID**

a. Inhound cars

b. Outbound cars

c. Total demurrage

### PASSENGER RESERVATIONS

a. N.Y., Chicago, Wash. offices
Number of reservations—Rail
Amount of reservations—Rail
Number of reservations—Air
Amount of reservations—Steamship

Amount reservations—Steamship

b. Factories

Number of reservations—Rail Amount of reservations—Rail Number of reservations—Air Amount of reservations—Air

c. Total all reservations made

d. Total amount of reservations

## OUTBOUND TONNAGE

Carload tonnage

Truckload tonnage
Carloading company's tonnage

Air cargo tonnage
Water carrier tonnage

Domestic express tonnage

LCL tonnage LTL tonnage

Local cartage tonnage

Parcel post tonnage Total domestic outbound tonnage

b. Export
Rail tonnage
Water carrier tonnage
Air cargo tonnage

Express tonnage

Total export outbound tonnage

c. Total all outbound tonnage
Next page, RCA Victor Division



## ... even in busy narrow aisles

The "Handler" turns in its own length, weighs (and costs) about ½ as much as a fork truck, and lifts and carries loads up to 4000 pounds. Just one lever does it all...shifts, lifts and brakes! Rider has unimpaired visibility at all times—backwards or forwards.

6 H. P. gas engine provides plenty of power for rugged round-the-clock operation – with no time out for recharging batteries.

Before you buy a more expensive piece of equipment, make sure that the COLSON "Handler", only \$1395 F. O. B. Elyria, Ohio, won't do the job just as well—or better.

Write direct or consult your phone book (under "Trucks-Industrial") for the COLSON office near you.

DESCRIPTIVE BULLETIN

The COLSON "Handler" free on request



CASTERS • HAND TRUCKS • LIFT JACK SYSTEMS
HYDRAULIC, ELECTRIC AND MECHANICAL
POWERLIFTS AND TRANSPORTS

CORPORATION

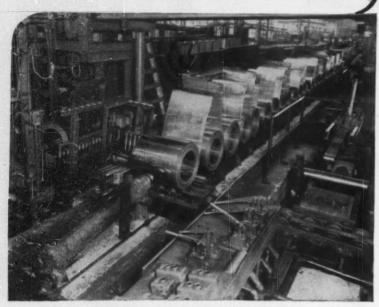
Elyria, Ohio

## automation

WE'VE WORKED TOWARD IT

FOR 50 YEARS AND CALLED IT

CONTINUOUS FLOW



Typical Mathews conveyer system made up of power conveyers and special conveying machinery in modern brass mill.

Mathews conveyers have for 50 years been helping manufacturers progress toward automation by handling materials to and from processing machines with a minimum of manual effort. Today, in almost every industry in plants throughout the United States and Canada, Mathews mechanized handling is at work creating a smooth, continuous flow of materials.

For information, write to the Mathews field office or plant nearest you. Ask for Catalog 853-R.



### MATHEWS CONVEYER COMPANY

GENERAL OFFICES . . . . . . . . . . . . . . . . . ELLWOOD CITY, PENNSYLVANIA
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CANADIAN DIVISION . MATHEWS CONVEYER COMPANY, LTD PORT HOPE, ONTARIO

Engineering Offices or Sales Agencies in Principal American and Canadian Cities

## MATHEWS

## **GOLD MINE** in transit

## RCA: "WE MUST HAVE

## MAXIMUM FLEXIBILITY . . . "

## Common carriers, truckleasing, planes give it.

A shrewd traffic manager spends a great deal of time just thinking about his transportation mix. In addition to the more-or-less routine savings through rate and classification negotiations, some general traffic managers have one or two projects brewing which demand a great deal more in creative ingenuity and administrative knowhow. Mr. Jamieson of Eastman Kodak has, for instance, been developing pool truck arrangements via common carrier into a refined technique which fits their distribution pattern perfectly. Mr. Harley of U.S. Rubber has brought freight consolidations, simultaneous loading and transloading techniques into full play in his operation.

At RCA in Camden, N. J., still another device has been in the growth stage since 1951. At that time the general traffic manager experimentally leased five pieces of truck equipment. By the end of the year the number of units had grown to 47, and now RCA is leasing some 175 pieces.

One major reason for the emphasis on leased truck equipment stems from RCA's manufacturing operations, which require, generally, less

than car or truckload shipments of small electronic components. Shipping LCL or LTL is expensive. Moreover, the nature of RCA consumer goods production requires precise timing on deliveries and shipments which cannot always be adjusted to rail or motor carriers' scheduled runs.

In the first eleven months of 1954, General Traffic Manager Sheldon Lewis points out, RCA saved over \$600,000 by leasing equipment as compared with the cost of shipping under common carrier rates.

In order to achieve maximum efficiency from the leased fleet, which is company operated and serviced, shipments are consolidated in key cities. In the Chicago area vendor daily pick-ups are consolidated at the terminal where the trucks are loaded and dispatched. Close scheduling with production makes a balanced load—trucks going to the Indianapolis plant return with phonograph records for Chicago distributors.

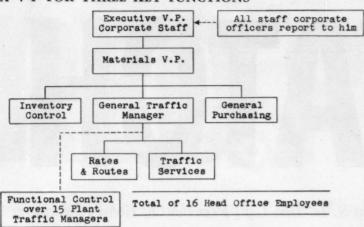
But on inbound freight, the major advantages, as RCA sees them, are the "intangibles" that solve supply problems caused by a fast-moving production schedule subject to





When distributors all over the country suddenly began complaining about damaged shipments, Traffic plus Shipping, Packaging, and Production technicians, along with railroad claims prevention men, all went to work immediately. Arrival photos (left) showed cause was-careless, loose loading. Package and product were okay. Solution (right) was bulkhead loading or blocking and bracing to prevent shifting during move to market.

### A V-P FOR THREE KEY FUNCTIONS



In staff relationship to his plant traffic managers, the functional control employed by RCA's general traffic manager is similar to that in most large companies. The materials v-p title, with three key departments, is unique.

fast changes in regional markets.

For instance, local haulers (who have their own problems-among them, the economic necessity to make a load as complete as possible before moving over the road) were often unable to pick up and deliver at stated times. In Chicago, the Victor Division paid four expediters whose job was to keep components moving from the suppliers to the plants. Now, there are no expediters. On emergency orders the RCA truck loads at the supplier's platform and drives directly to the plant. In terms of continuing production, this means dependable

Another advantage, especially important for the relatively high-cost components, has been that certain delivery cuts down on inventory costs and permits faster turnover.

Production management demands on the traffic department for flexibility are amply shown by an emergency situation that developed in the Indianapolis plant last year. New production schedules there required almost immediate inbound shipments of a wide variety of components. The only apparent solution was what traffic calls premium transportation-parcel post, or air express, for instance. The Camden traffic department took a literal flier on a chartered plane, consolidated shipments in New York City were driven to the airport by 11 P.M. and loaded onto the plane. By three in the morning the plane was arriving at the Indianapolis airport where other trucks carried the shipment to the plant. Then newly pressed

records were loaded on the plane which landed back in New York around eight in the morning. This routine continued for five months, during which distributors in the New England area received records pressed in Indiana the previous day! Though speed was the determining factor, the savings to management were actually about \$5 per 100 pounds under premium freight charges.

It is that sort of imaginative functioning which management in every company should, but doesn't, encourage from its traffic department. One more example: Because their distributors technically took title on television sets when the product left the plant, RCA permitted them, naturally, to route the shipments themselves. Now, working closely with the sales and production departments, traffic is beginning to take charge of routing. By combining shipments to two or more distributors, the transportation cost to the distributor is often cut as much as 50 per cent. Accomplishing this involves more than routine rate and routing work. The shipments must be closely co-ordinated with sales planning so that all customers in a marketing area receive similar models about the same time. Distributors have to be convinced that savings will compensate for delays. It means considerable effort for the traffic department with no tangible results to show management. The benefits in distributor relations accrue to sales.

That's a typical result of good traffic management.



The Union Pacific serves a number of western states as pictured on the map. This vast territory contains an abundance of natural resources in addition to being a healthful, progressive region in which to work and live. As you know, it offers boundless opportunities for outdoor recreation.

If you're thinking about an assembly plant, ware-house, distribution center, or whatever it might be, in a western locality—then we offer this suggestion—

Contact your nearest U.P. representative. Tell him what you have in mind regarding an industrial site to meet your specific requirements. Then he can get in immediate touch with U.P. headquarters in Omaha... obtain for you the information you want about available sites.

Or — if more convenient — write, phone or wire the Industrial Properties Department, Room 357, Union Pacific Railroad, Omaha 2, Nebraska.



## MATG

A statement by S. D. Den Uyl, President of Bohn Aluminum



S. D. DEN UYL

Bohn Aluminum & Brass Corporation purchased Reo Motors, Inc. on December 31, 1954. Now, backed by greater resources, Reo is embarking on an important new program of expansion in the manufacture of trucks and in service to users of trucking equipment.

In John C. Tooker, Reo's new President, Reo has a man of 30 years' experience in the trucking industry. His top management team in Engineering, in Manufacturing and in Sales, also are men of experience—and men of action. We are going to get a major share of the medium and heavy duty truck market.

SODENLY

Bohn Aluminum and Brass Corporation

This management team is sparking the greatest expansion program in Reo history!



J. J. Dervin, vice-president and ass't to president



W. M. Walworth, vice president



J. L. Adams, vice president



E. W. Reese, general sales manage

and



## REOROLL

and Brass Corporation and John C. Tooker, President of Reo Motors, Inc.



JOHN C. TOOKER

Now, with the backing of Bohn, we have all the elements needed to implement our new program of expansion. It is already well under way.

From 16,000 pounds up to the heaviest duty trucks on the road today, Reo offers an array of the World's Toughest Trucks with gasoline, L P-Gas and Diesel power plants. Reo is the only exclusive truck manufacturer building truly modern 6 and 8 cylinder truck engines—the rugged Reo Gold Comets. Included is the 220 horsepower Gold Comet V-8, most powerful V-8 truck engine ever built.

Never before has Reo had so much to offer the user of motor transport. We invite you to Watch Reo Roll!

John C. Tooker

PRESIDENT

Reo Motors, Incorporated



A. W. Zimmer, vice president



R. J. Darragh,



G. W. Byrne, director of



R. A. Smith, vice president legal counsel



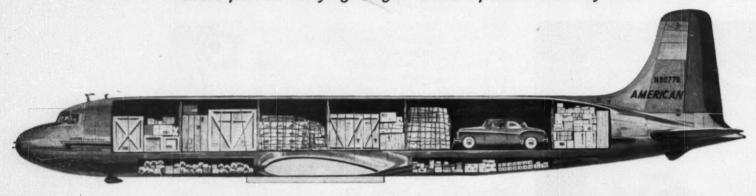
R. F. McKim secretary

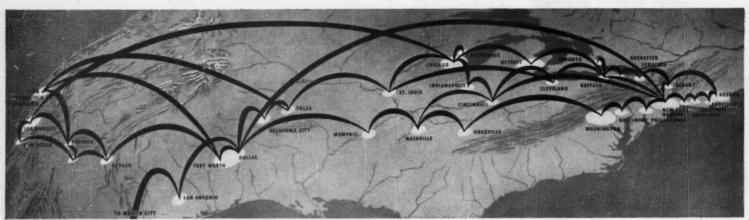
REO MOTORS, INC.

SUBSIDIARY OF BOHN ALUMINUM AND BRASS CORPORATION

## We've got the right SPACE at the right PLACE!

American Airlines has the greatest cargo capacity in the airfreight field -more planes carrying freight to more places than any other carrier





As capacity is one measure of a carrier's ability to deliver the goods, it's important to know American has more space for freight than any other Airline. But, equally important, is the availability of that space – having it where and when it can best serve you. Here again, American leads all others. While providing service to seventy-seven key cities, American Airlines covers

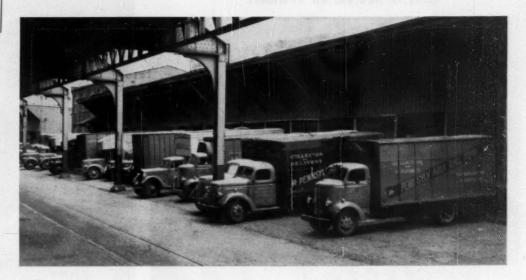
two-thirds of the top thirty retail markets – all twenty-three of the leading industrial states!

Add this to American's superiority in experience and handling and you'll readily see why American is best qualified to carry your shipments while helping to solve your distribution problems. American Airlines, Cargo Sales Div., 100 Park Avenue, New York 17, New York.

## AMERICAN AIRLINES INC.

America's Leading Airline

Integrated motor truck service used by most railroads permits pick-up and delivery in "zone" cities, also replaces freights in handling LCL shipments to small towns. This recent trend toward integration of rail and truck deliveries will be expanded if Congress accepts a Cabinet report giving details of ...



## Washington Plans for New National Transportation Policy

FAR-REACHING changes in national transportation policy have been under active consideration by the President's Cabinet since December. At that time a report prepared by a group of business men headed by a director of American Telephone & Telegraph, including industrial traffic managers and working with former Undersecretary of Commerce Robert Murray, an ex-New York financier, was submitted to the full Cabinet.

Originally scheduled for Congress in early January, the report has shuttled from the White House to Commerce to the Attorney General's office and back so often that persons closely related to the project are worried that the original plan may be modified to a point where all the teeth are extracted.

Regardless of what action Congress takes on the report as submitted, many of its elements are extremely controversial and are as certain to be bitterly fought as they are sure to be revived in future sessions.

The major controversial provisions of the original report center about mergers, acquisitions, rate changes, and the Federal antitrust laws. In general, the philosophy guiding the committee was that the way to free, or almost free, competition among all forms of carriers should be open. Therefore, the original report recommended that mergers of railroads, currently frowned upon by both the ICC and the Attorney General, be permitted. Airline mergers would be accepted unless they demonstrably conflicted with monopoly legislation.

Even more startling, considering the traditional national pattern, the government would permit the railroads to acquire trucking lines or airlines or steamship lines. As a matter of fact, any one of the four could buy any other.

Backing up these provisions, the now powerful Interstate Commerce Commission would lose much of its rate-making influence. Railroads would be able to exercise much more discretion in making up tariffs to meet competition. Truck rates and airline rates would have similar flexibility.

These three major changes, many experts think, are impossible unless corresponding changes are made in the antitrust laws now on the books. Others are concerned that with a weakened ICC the carriers might wield sufficient Congressional influence to push through new antitrust provisions not wholly in the public interest, or else exercise discriminatory power within the framework of current legislation.

Another facet of the report which has already caused a stir in the truck industry, would set up a series of user charges on forms of transportation which are partly subsidized by the taxpayer. These would include truck use of highways, barge use of inland waterways, and various Federal aids to air and shipping lines.

Other elements in the report would tighten regulations for some carriers. Truck contract carriers, for example, who haul regularly for a small number of companies and whose rates have been a matter of private contract, will have to publish all rates and thereby open up common carrier competition. Airlines operating on a non-scheduled basis would be obliged to operate under the same rules as the "scheds."

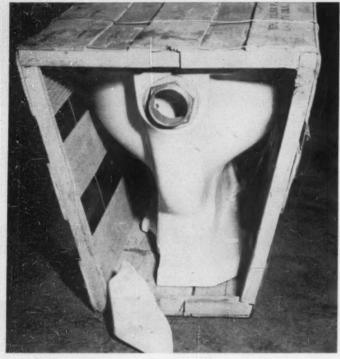
The significance of these changes for industrial shippers, if they are eventually approved by Congress, could be enormous. Without question the report, or that part of the original the press has been able to pry from informed sources, is biased in favor of the railroads. The reason advanced is that the railroads have been straitjacketed by regulations for so many years because of their powerful early twentieth century grip on the country's transportation network, that they require immediate aid, regardless of expected charges of favoritism.

Whether or not this reasoning is valid, many trucking companies are worried. The obviously greater ability of the railroads to buy up truck lines than the other way around, and what now seems to be the inherent advantages of the new flexibility this would offer to the industrial shipper, is causing the trucking industry some sleepless nights. Neil J. Curry, president of the American Trucking Associations, Inc., said in a speech recently that the Cabinet report would apparently give the railroads a "hunting license" • to crush truck competition.

Most shippers are agreed that mergers of strong rail lines with less profitable roads or mergers of two or more "sick" roads would probably permit better service and lower rates in the long run. Most shippers, in fact, seem to approve the recommendations but doubt that Congress will accept them in their present form.

## **GOLD MINE** in transit

Part of one day's receipts at Santa Fe's unclaimed freight department at Topeka tells the story . . . .



Though acceptable by railroad packaging standards, crate above is not adequate for heavy porcelain object, needs cut-outs and bracing.





No bracings of any type were in carton above. "Fragile" marking prevents rough handling, is no safeguard against shifting product, package en route.



Air shipment prerequisites are minimum shipping container tare weights and minimum displacement. Hundreds of manufacturers still overpackage air express or air freight products and pay for it. Only six wood pieces hold coin-operated hobbyhorse secure to wire-bound crate.

## What's Tough About Cost-Cutting?

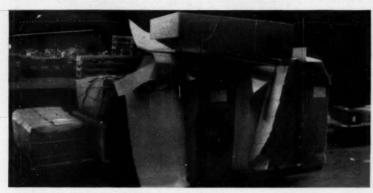


Unattached parts and fittings, "jumblepacked," often break through side of package. International Harvester ties them to crate with wire.



Small packages in large crates rarely fit snugly, shifting en route within crate causes damage. Tube Turns, Inc., puts excelsior in dead space.

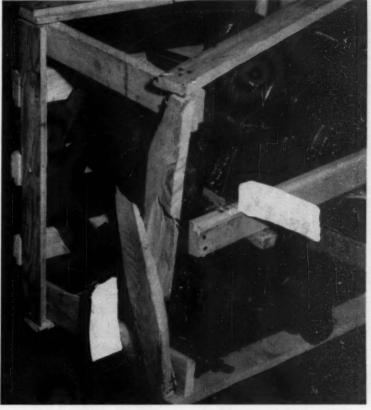
## Packing for Shipping— The Waste is Fantastic



This entire shipment of desks was "protected" by one layer of single-faced corrugated paperboard. Railroad had to repack product completely.



Boiler on flat car, in railroad photo above, was held down securely but shipper forgot one vital thing. Doors, unfastened, fell out and smashed.



Shipper saved money with crated pump, above. Though dealer got a broken product, shipper saved on diagonal bracing, and on three-way corners.



Example of engineering packaging is Delta Star's prize crate, designed by General Box, above. It has pallet for forklift handling, saves three man-hours on packing time, cuts gross shipping weight 106 pounds per unit, and produces substantial savings in the package materials.

## These Shoddy Practises May Cost You Money How Many of These Errors Are Yours?

- Continued use of fatigued cartons or failure to remove old marks on reused cartons.
- Use of cartons designed for former, different model on new model until stock runs out.
- Use of tags on cartons. Tags near edge of carton are torn off fast.
- Illegible, smeared, or faint shipping marks.
- Disregard of side blocking in cars with unusual lateral space.
- Failure to rigidly block moving parts of machinery or haphazard blocking overlooking, for example, needed bracing at center of gravity.
- Careless handling by loading or unloading crews.

- Loading defective products or warehouse damaged cartons.
- Failure to inform carrier of damage while lading is still in car—essential for damage prevention work.
- ☐ Loading of containers contrary to caution marks; for instance, "this end up."
- ☐ Indiscriminate use of packages as platforms when stowing or unloading upper layers. Fiberboard packages with a clearance pack cannot withstand the weight of a man without causing direct damage to product or subjecting it to damage later during shipment.
- Poor arrangement of load or loose loading which will cause load shifts.

  Continued on page 96



One of the twelve strapping stations set up by Quaker Export Packaging Co. to handle "Operation Poinsettia."

## Signode power machines strap 600,000 cartons of food for export in 30 days!

Start November 14th and package 3,592,500 food parcels for shipment overseas in time for Christmas? It was done—in an amazing demonstration of fast organization and sustained effort, with the parcels packed six to a carton, cartons sealed, and reinforced with two steel straps.

Says Benjamin Bernstein, President, Quaker Export Packaging Co., Inc., Philadelphia, "In approximately thirty working days we applied over 1,250,000 straps. During the entire operation there was no major breakdown. This proves the excellence of the design and engineering of the machine, and the excellent service and installation."

This is unitizing on a big scale (and on a hurry-up basis . . . in little more than a week after the first call from Quaker Export, Signode had delivered the power strapping machines and set them up for operation).

Dependability—and experienced, helpful follow-through—are part of every item in the complete line of Signode hand and power tools for tensional steel strapping. For additional information, or a survey of your needs, write,

## SIGNODE Steel Strapping Co.

2665 N. Western Ave., Chicago 47, Ill.

Offices coast to coast—Foreign subsidiaries and distributors world-wide. In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

- ☐ Insufficient or lack of doorway protection.
- Containers overloaded beyond marked weight.

### Fiberboard Containers

- ☐ Fiberboard stored in shipping departments subject to excessive dampness or extreme heat.
- Dirty brushes or low temperatures resulting in poor sealing of paper tapes.
- ☐ Insufficient staples or improperly clinched staples.
- Poor quality or not enough adhesive.
- ☐ End flaps not properly aligned. ☐ Lengthwise flaps not squared or not meeting.
- ☐ Cut-outs or parts omitted through error.

### Crates

- ☐ Insufficient clearance provided for product.
- ☐ Crates constructed without three-way lock corners or diagonals. ☐ Green lumber with knots greater than one-third of width.
- ☐ Products inadequately secured or positioned on base mat.
- Poor blocking of product or blocking exerting pressure on a vulnerable portion.
- Apertures too wide between slats.
- ☐ Failure to use cement-coated nails or use of insufficient nails to maintain assembly and proper rigidity
- Lack of steel strapping where required.

### Interior Packing

- ☐ Inadequate or improper positioning of interior forms due to changes made in original pack to effect economy.
- ☐ Interior forms applied in such a manner as to exert pressure on vulnerable portions of product.
- ☐ Improper application of interior packing due to lack of supervision. ☐ Lack of clearance between con-
- tainer walls and fragile articles.

  For much of this material and

For much of this material and many of the preceding photographs the editors are grateful to the Association of American Railroads; the Pennsylvania; the Chicago & North Western; Illinois Central; Atchison, Topeka & Santa Fe; Chicago, Rock Island & Pacific; Chicago, Milwaukee, St. Paul & Pacific; Union Pacific; Southern Pacific; and New York Central railroads.



## MARSHIAN TAPER LICKS HERSHEY CHOCOLATE SHIPPING PROBLEM

Hershey Chocolate Company's packaging operations have been speeded up with Marsh Electric gummed tape dispensing machines. They're called "DIALTAPERS" because you just dial the tape length needed. Tape is measured accurately, moistened with warm water, and cut off clean, ready to seal with one pass of the hands. Users save up to 25% in tape ... 50% in time with the Marsh Electric DIAL-TAPER. It's amazing.

FREE: "The Marshian Story" of Electric Taping. Clip ad to business letterhead with your name. Mail Today! MARSH STENCIL MACHINE COMPANY, 62 Marsh Building: Belleville, Illinois U. S. A. BI-16

## MARSH DIAL TAPER

breaking LIFT out of the Heavy Jobs with



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Partable Pedest Type for loads to 2000 lbs.

and

HYDRAULIC LIFT TABLES

You don't need "muscle-men" for handling heavy dies, sheet steel, or big machined parts.

heavy dies, sheet steel, or big machined parts, when you have new WELD-BILT Hydraulic Tables on the job. Just adjust the Table to loading height, slide parts on easily, without tugging or lifting. Then just move to press or machine position, raise or lower to working height — fast, easily.

Write for latest bulletin and prices.

WEST BEND EQUIPMENT CORP.

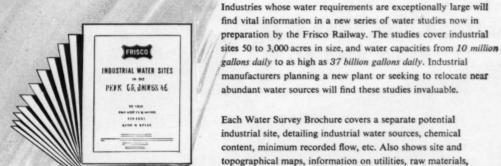
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Complete analytical water surveys of choice plant sites in the Southeast and Southwest



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## FOR SALE

## space in your warehouse!

Sooner or later, most firms find they need more warehouse space. The question is: how to get it?

Should you build additional facilities at today's construction costs? Or should you lease space—an equally expensive solution.

The answer—many firms like your own have found—need not be either of these. The solution is to make more efficient use of existing warehouse space.

Only since the introduction of RAYMOND Electric Trucks has this solution-been possible. These trucks brought into being the narrow storage aisle, permitting you to store more goods in the space you now use.

By operating in aisles 6-ft. wide, RAYMOND Trucks make room for additional rows of storage. To some firms, this reduction in aisle width has meant as much as 30% more storage—plus savings calculated in thousands of dollars.

A customer once termed the operation of RAYMOND Electric Trucks, "Magic"! And we're almost inclined to agree. With a standard 48" long pallet, it measures nearly 7-ft. long—yet turns 90° to stack in 6-ft. aisles.

The RAYMOND Electric Truck offers numerous other advantages too. For example: lightweight for use on low-capacity elevators and floors; safe riding; easy servicing; simple operating controls; plus many more space will not permit us to mention.

A brand new catalog describing RAYMOND Trucks in detail has just come off the press. Why not drop us a note on your letterhead and we'll see that you receive a copy.

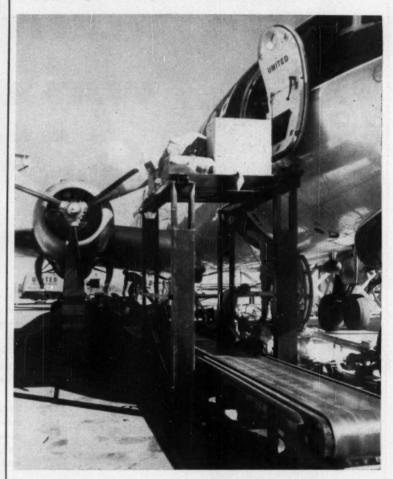
## The RAYMOND CORPORATION

4652 Madison Street, Greene, N.Y.

## **GOLD MINE in transit**

New Developments Cut Costs,
Speed Deliveries, Reduce Damage

Air Cargo Loading



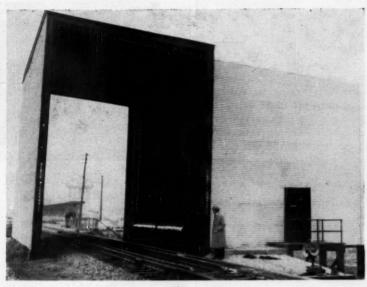
New loading technique being developed by United Air Lines tows airliner up to a central building which houses cargo work-center. Cargo moves on conveyor belt, is hoisted up to freight hatch on one of three hydraulic lifts.



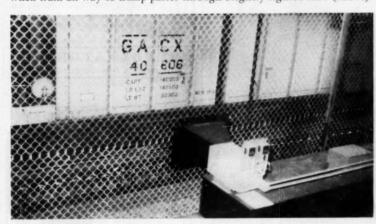
Whiting Corporation's Loadair installation at N.Y.'s Idlewild airport uses similar principles, brings plane to central handling, loading building. Both systems eliminate costly mobile equipment and speed handling time.

and

## TV Checks Freight



Incoming freight trains are identified by TV in Virginia's big Potomac Yard, replacing time-consuming checking by men on foot. Process begins when train on way to hump passes through brightly lighted shed (above).



TV cameras, located behind protective grille, take fast pictures of each car's number and initials, flash them in sequence onto TV screen in car record office located roughly two miles distant. In office a clerk . . . . . . . . .



Talking into a microphone, records on tape from the screen the number and initials of the moving cars, making that information available to the hump and car record offices before long freight train even stops in receiving yard.

## What Traffic Men Need...



Executives know that traffic expense for the movement of raw materials and finished products represents a substantial cost item in any industry. That's why Traffic Officers demand dependable, damage-free freight service . . . and they get it from North Western.

107 years' experience backed up with services like these are proof of North Western's ability to serve its shippers well . . .

## NORTH WESTERN RAILWAY SYSTEM

### DIESEL-POWER

95% of all North Western freight now moves under diesel power.

### PROVISO YARD

World's largest classification yard for carload and LCL freight.

## PIGGY-BACK FREIGHT

Pioneer developer of doorto-door trailer-rail service.

## INDUSTRIAL DEVELOPMENT

Close working arrangement with Traffic Officers in development of industrial sites.

### NATION-WIDE SERVICE

C&NW traffic experts are at your service in the principle cities of United States and Canada.

## If your firm operates its own trucks... Tachograpis can do these things for you:

## Cut truck repair bills 2. Give you closer driver supervision 3. Make drivers safety-conscious

The Tachograph is a recording speedometer which mounts on your truck's dashboard. It automatically records the following information on an easy-toread, wax-coated chart: When truck started—How fast it traveled—When truck was in motion—When it stopped —How long truck idled and Distance between stops.

Send this coupon today! We're sure you'd like to know more about the Tachograph...the many ways it can help you make your trucking operation safer, more economical, more efficient. Fill out the coupon below. Send it to us and get Bulletin SU-3...it gives the whole Tachograph story.

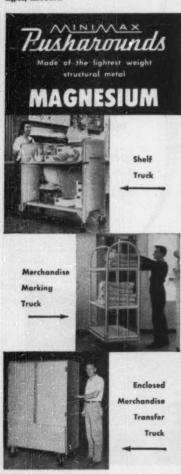
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You'll get more, faster, safer pushing from your pushers the day you replace "snail'space" steel and wood pushcarts with B&P's light, modern



Write or phone B&P today about saving your Pushmoney with Pusharounds. Tell us about your uses. We'll adapt our flexible Standard Models to your needs . . . or build what you want . . . PUSHAROUNDS PAY THEIR WAY . . . PRONTO!

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...PLUS!

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## GOLD MINE IN TRANSIT

Continued

## Electronic brains lower damage claims

Without question, a major source of freight damage is humping. Although the railroads have been working on this for some time it has only been within the past year that an apparent solution was reached. In the old practise, which promises now to obsolete rapidly, a long run of freight cars is pushed up an incline or "hump" by a yard engine. Then the cars are uncoupled and one by one roll down the opposite side toward a switch which "classifies" the cars, that is, switches them

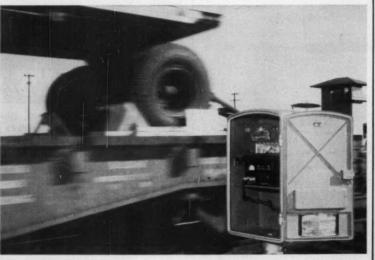
onto the proper track where the freight train is being made up.

Damage often results when the cars couple. For instance, when the train is nearly completely made up, the car has a smaller distance to travel before coupling, consequently hits the preceding car with considerable impact.

In 1954 the nation's railroads paid over \$111 million in freight loss-and-damage claims, much of this incurred in their freight classification yards.



New classification technique shifts freight cars onto proper track automatically. Electronic console (above) takes over as soon as car is pushed over hump. Speed of car is controlled by series of electropneumatic braking devices. Machine (developed by Union Pacific and Reeves Instrument Corporation) retains simultaneously the routing instructions for 120 cars.



Radar speed meter (above) measures the speed of moving freight car as it enters braking devices and speed within them. These readings are transmitted to control tower (rear, right). As the track fills with cars, the meter automatically reduces the speed of the cars so that when they are released from the retarding units the cars will couple at the proper amount of speed.





## REVOLVATOR RED-GIANT features Safety-Ease



Durability — built in by 50 years of Revolvator Co. experience—is still the fundamental of the Red Giant liftruck line. Maneuverability, plus the safety of their exclusive double stroke mechanism. make the models shown leaders in their fields. There is a Red Giant liftruck available for

every use-for every capacity.

Write for the full facts today.

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and



Let Lehigh untangle things for you! With our 35 years' experience and unmatched facilities, we know most of the answers to storage and distribution questions.

We have facts marketers will welcome ... evidence that may prove our services can be more efficient and economical than operating your own warehouse and trucks.

Our five modern warehouses and delivery fleets can put your products quickly into the rich New York metropolitan area. We also operate the huge Horseheads center in upstate New York, and others in Atlanta and Richmond. Our big tank farm at Bayonne, N. J. unloads bulk liquids, stores and repacks for distribution at a saving. Lehigh saves you year round operating costs; you pay only for services as used. Every manufacturer and shipper should know the Lehigh story. It's good business. Write, phone or wire.

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Warehouse & Transportation Co.

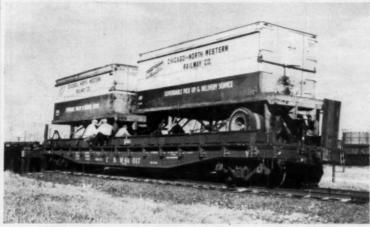
102 Frelinghuysen Ave. Newark 5, N. J.



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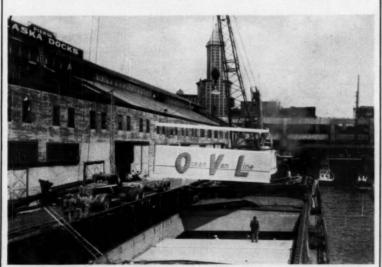
A Trend Still in Its Infancy



Though mechanics and conflicts of interest involving "piggy-back" operations (above) must be settled, combination of trailer and railroad flat car will, because of economy and speed, soon be available for most shippers.



Flexibility trendmaker is just-announced van developed by Clark Equipment Company. Shipper loads van on trailer, unloads onto flat car. At delivery point, container becomes storage unit until contents are needed.



Similar technique by Brown Trailers, Inc., uses aluminum van, eliminates costly crating, delays, multiple handling, special cars, or shoring to prevent in-transit load shifting. Containers can be nested three high, stored outside.



## ".. Bunn Tying Machines.. time savers and great money savers"

says G. A. Seyfer, Office Mgr., KIWANIS INTERNATIONAL

Bunn Tying Machines have long been used in Kiwanis International's Chicago headquarters for tying packages of supplies for shipment and for "tying out" mail. In 1½ seconds and less, each package is tied securely, with just the right amount of twine.

Bunn Tying Machines adjust automatically to any size or shape . . . tie with slip-proof knot and correct, uniform tension.

Bunn tied packages cannot be duplicated by hand . . . assure better protection against breakage and material damage . . . and are fully approved by postmasters.

Simple, effortless operation cuts down labor turn-over . . . steps up production . . . eliminates bottlenecks and overtime pay. With a Bunn Machine one untrained operator can do as much as 5 to 10 experienced hand-tyers.

Almost anything that can be tied by hand can be tied faster and better with a Bunn Tying Machine.

## BUNN

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booklet, which illustrates the
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## plant-location



## Market data can make the difference . . .

Only the most detailed, up-to-theminute information can show if a new plant site is near your best potential markets...whether these market areas will change in size...or if new markets for your products can be developed in a particular locality.

But how can you be sure that your market data is current and complete? That it will answer most plantlocation problems? Here's one way you can get the facts needed to make the right decision on location. Just contact New York State's Industrial Location Service.

ILS market data covers a lot of ground. One of the big reasons for this is that we're associated with the state government. This gives us access to facts and figures on incomes, consumption, and population shifts that individual researchers might find hard to get. And market data like that can make a big difference in choosing the right plant site.

## Detail is our dish

Another thing that makes our service unique is the extent of our records. Over the years we've been able to chart trends in expenditures, retail inventories, and family composition, among other things-for every area in the state.

Doesn't matter whether yours is an industrial or consumer product, either. In most instances, figures can be provided representing present industrial consumption of specific products within a given radius of suggested New York State locations. Or giving the size and number of companies to which you'll be selling. All this information is free and strictly confidential.

## Other free plant-site services

Markets won't be your only concern when you're looking for a new plant site. But whatever factors are involved, ILS can help.

Reports are available on transportation, buildings and sites, raw materials, labor, water and local laws and regulations-to mention just a few. These surveys are tailored to meet your requirements, and sent to you without cost or obligation in strictest confidence.

Our booklet called "Industrial Lo-cation Services" shows how you can put this valuable plant-location data to work. To get your free copy, write me at the New York State Department of Commerce, Room 740, 112 State Street, Albany 7, N.Y.

Rosald B. Osteram

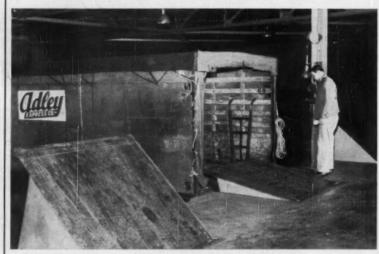
### GOLD MINE IN TRANSIT

## Motor Freight Approaches Maturity

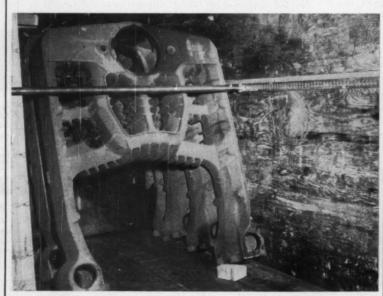
Motor freight development has outstripped laws governing it. Even shippers seldom fully capitalize on its efficiencies. Loading practises, for instance, are notoriously inefficient. There is a need for standardization of laws controlling lengths and weights. Also, relationship between trucks, rail, and air must be resolved by new Federal legislation (see page 93).



Claimed to have biggest dry freight capacity in the world, Strick Company's "maximum cubage" unit has payload width of 94 inches out of a possible 96 of legal outside width, uses extruded aluminum posts.



Hydraulically controlled ramps (above) in Cambridge, Mass., motor freight terminal are answer to fast, damage preventive loading of trailers with varying floor heights. Some firms use hydraulic lifts under rear wheels.



Borrowed from air cargo loading is technique used by National Radiator Company to secure its heavy cast iron boilers. Instead of standard bulk-Director, Industrial Location Service heads, aluminum strips with eyelets support seamless steel tubing bar.



IN PRODUCTION - assembly tagging — labeling — maintenance (insulation, screens, etc) — convention, plant and store displays — HANSEN leads the field as the "preferred" TACKER.

PRODUCTION (A few of 1001)

- PLASTIC DIAL PLATES ON RADIOS LOUDSPEAKER SILKS

- GASKETS TO REFRIGERATOR DOORS
- RUBBER DIES ON PRINTING ROLLS
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One-hand operation — light weight — ready portability — compactness — powerful driving action — Take-up Jaw for easy dismantling and assembly — are among the features that appeal to Hansen users.

36 MODELS-80 STAPLE SIZES

From a wide variety of models — for light, medium or heavy-duty service — and for driving staples of various lengths and widths — you can choose the model best suiting your needs. Staples available in tackpoints and chiselpoints, single or double-leg, and in required widths.

For BEST RESULTS use only genuine Hansen Staples in the BLUE BOX . . .

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Ten hands when one finger on a pushbutton will do? Modernize your materials handling equipment! Use your men much more productively!

See hundreds of new developments in equipment, machines, supplies and services exhibited by the industry's pacesetting manufacturers. Write for free tickets: Clapp & Poliak, Inc., 341 Madison Avenue, N. Y. 17.

6th National **Materials Handling** Exposition

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## THE "WHIPPET" MARKER



matically dates, codes, or marks production ru ons, packages, filled bags, boxes, rolls, cans, etc. ly manufacturers, food packers, distillers, oil es, etc. Send for free catalogue.

THE INDUSTRIAL MARKING EQUIPMENT COMPANY, INC.

454 Baltic Street, Brooklyn 17, N. Y., Dept. DR —

and



## Will your brakes work, or will his name be mud?



Only <u>steel</u> tubing can take punishment like this

Your hydraulic brake lines take a constant beating from flying stones; sudden, jolting stops; bumpy roads; stop-and-go driving in traffic. You can depend on double-walled Bundyweld STEEL Tubing – it's 15 times stronger than necessary to save your life.

Slow as he is, this old mud turtle has a wonderful chance to reach his favorite haunts in safety. Here's why: the manufacturer of your high-speed car equipped it with hydraulic brake lines of Bundyweld Tubing. This outstanding tubing is leak-proof, remarkably resistant to vibration fatigue, and 15 times stronger than necessary to save your life. That's why Bundyweld is used in 95% of today's cars in an average of 20 applications each.

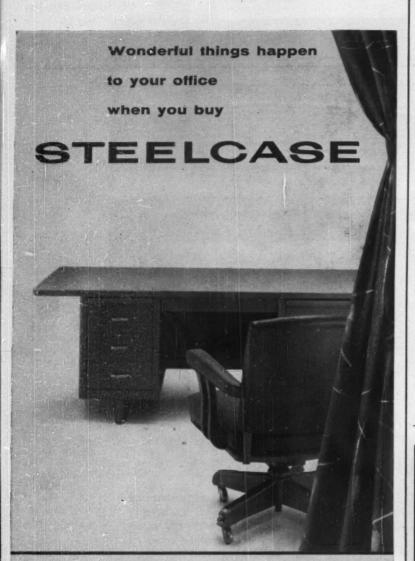


Made by the world's largest producer of small-diameter tubing, Bundyweld Steel Tubing is the only tubing double-walled from a single metal strip, copper-bonded through 360° of wall contact.

BUNDYWELD TUBING

"The lifelines of your car"

BUNDY TUBING COMPANY . DETROIT 14, MICHIGAN



... wonderful things like having a happier, more energetic office working force . . . profitable things, such as saving as much as 25 per cent in office floor space . . . satisfying things like knowing your office furniture problems are over, since with Steelcase your first cost is your only cost. With absolute satisfaction as its golden rule, Steelcase continues to serve the fine companies of America . . . as is has for over forty years.



FREE . . . "Sunshine Styling" . . . the most unusual, most dramatic office furniture brochure ever created. Please request it on your letterhead, addressed to Department A, or ask your local authorized Steelcase dealer.

## STEELCASE INC

## HOW TO BUY A COMPANY

Continued from page 38

but primarily it is just plain salesmanship. You can point out that you are buying with a creative purpose; to continue and, if advisable, to enlarge their operation.

Don't make the mistake of running down their business with the idea of buying it cheaply. Make them feel that if they did not have a good business, you would not be interested in it. Admit frankly some of its features that make it of interest to you. You can discuss price

Before seeing your prospect, you will have secured all available information about them, and there are many sources through which this can be done. Naturally you are interested in their plant location, their financial condition including long- and short-term debt, working capital, present or contingent obligations, and income tax clearance. You want to know their sales, earnings, their competitive status, plant equipment, products, sales policies, and management personnel; their growth possibilities, capital investment needed, how their stock is held, and so forth.

You will also have made two decisions. Are you planning to buy them for cash or through an exchange of stock? Do you want to take over the charter or just buy the assets?

At this first meeting, you run up against three things.

First, it is a universal law that any management considering selling will overestimate the value of their company. They will bring out an insurance or other appraisal showing the reproductive value of their plants at a much higher figure than their book value.

Second, the preliminary overtures are generally conducted in secrecy. The prospect will often want to meet you at his home or club, or in your hotel, but it will usually be away from his place of business. There are obvious reasons for this -to avoid stock speculation, possible loss of customers, disturbance to employee morale, to prevent management talent from going else-



## Another "Latest Method" may be "later than you think"

Don't wait for the "emergency". Find out NOW how Keiding engineers might team up with your organization to improve profits by designing and producing special "Molded Tuf-Fibre Forms" that (1) cut production costs, and/or (2) improve product quality; (3) protect shipments; (4) aid your sales • It's been done for others . . . might be done for you, too!



eiding PAPER PRODUCTS COMPANY 3048 N. 34th St., Milwaukee 10, Wis

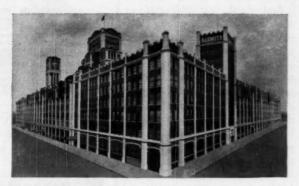
erica's Foremost Producers of Industrial Molded-Pulp Forms

Please write TODAY in detail

May We Help You?

Do you have a "form" problem in production? Do you make costly

problem in production?
Do you make costly
parts or assemblies that
need unusual protection
in shipment or storage?
Let's get acquainted . . .
so you'll know how to
use Keiding special molded pulp forms profitably.



Big-like Stewart-Warner



Or small-like Renier Company



## Burroughs Sensimatics can cut your accounting costs

Look at this contrast: Stewart-Warner, a large corporation with many products, has accounting departments staffed by more than four hundred people. The Renier Company, a thriving retailer of lumber and builders' supplies in Lincoln Park, Michigan, has just two girls for all accounting.

Still, both businesses use Burroughs Sensimatic accounting machines—to cut costs to a mechanized mini-

mum. The difference is that Renier needs only *one* Sensimatic, while Stewart-Warner uses many.

Actually, the clue is in the name "Sensimatic," meaning an automatic machine with the exclusive Burroughs "sensing panel." It's this control that makes each Sensimatic four machines in one—a sound investment for any business.

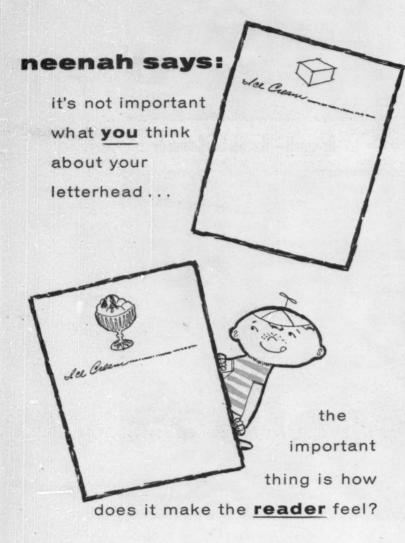
With any Sensimatic, you can do four major accounting jobs at the

turn of a knob. Then, to switch to other operations, or even to a new system, you simply insert another four-job panel.

These versatile machines fit any business. They're in six different series—two to 19 totals—and your Burroughs man will demonstrate any or all. Burroughs Corporation, Detroit 32, Michigan.

Wherever There's Business There's





For four years, the Neenah Paper Company conducted a nationwide poll to discover what businessmen liked and did not like about letterheads.

The results of this study summed up in the "Neenah Guide to Preferred Letterheads" will help you create a company letterhead that will be more appealing to those to whom you write.

For your free copy of this colorful, 32 page book, simply ask for one from your printer. He can obtain his copies from paper merchants handling Neenah Fine Business Papers.



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where, to mention a few of them.

And third, you will run up against the human factor. The personal feelings of the management whose company you are trying to buy may be the greatest single obstacle to the negotiations. And that is natural. They probably own their own homes, have a leading position in their community, and are apprehensive about what might happen to them and to their employees if they are taken over by a larger concern. You can tell them that you are buying a going company, and would not want it unless the bulk of their people are willing to come with you, which is true. But at this stage of the matter, unless you know the management personnel very well, it is a mistake to make any definite commitments.



The AUTHOR

John C. Best, vice-president in charge of Special Projects, has negotiated 20 mergers for his company, National Gypsum. Born and educated in England, he joined the family business of Best Bros. Keene's Cement Company as secretary following World War I, and later rose to the presidency. When the company merged with National Gypsum in 1938, Mr. Best assumed his new duties with the combined operation.

Residing in Buffalo, N. Y., he is a director of the American Arbitration Association and the Buffalo Council on World Affairs.

### 

We are fortunate in being able to mention that many of our present officers and key executives came to us through mergers. Lewis Sanderson, our president; John Brown, vice-president in charge of sales; myself; and many others entered National Gypsum through the merger route. If you can quote similar cases, you will often find that good management talent relishes the larger opportunity they will have with a bigger company.

So at this first meeting, you are largely sounding out your prospect and trying to secure enough information to decide if you still feel the business would be desirable. If they are willing to discuss a sale and give—you the information you need, the matter is relatively simple. If not, your greatest asset will be a retentive memory. Most people who are at first reluctant to give you the figures you need are still willing to talk about their business, and you

## ARE YOU FEEDING

Only completely modern materials handling equipment can feed your new automatic production machinery all it can eat. See the latest in materials handling equipment designed to keep pace with automation, exhibited by hundreds of the industry's pacesetting companies. For free tickets write:

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th National Materials Handling Exposition

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## slips do count

Slips pile up your medical costs and compensation payments.

They inflate your payrolls. (How much does it cost you to train and pay an unskilled substitute while an absentee victim's salary continues?)

Slips leave you wide open to law suits and, since they count against your Safety record, very likely increase your insurance premiums.

Isn't it time you were introduced to Legsure\*, the modern Safety Floor Polish that reduces slip-fall accidents by up to 98%.

Legsure gleams without buffing, minimizes scuffing and retains it slip-resistance for months without the need for stripping.

It saves you Big tangible dollars, too, on floor maintenance. Up to 25% on material. Up to 50% on labor.

Write today for full information on Legsure.

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may finish with a fairly complete picture of it. But they will shut up like a clam the minute you start to make any notes.

At this or a later meeting, you will obtain the necessary information. You will discuss it with your associates. If the picture is still favorable, you will then work out with the prospect an outline of the basis for the merger. This is usually incorporated in a memorandum, rarely more than two pages, embodying in plain business language a simple statement of the terms. Up to this point, unless it is an unusually large or important matter, you have not bothered your board of directors with it. The agreement is still subject to an audit of the company's books and physical facilities by experts, and to legal opinion on their titles, contracts, and similar matters. And, of course, approval by the directors of both companies.

### Investigators

So you call in your team of accountants, engineers, lawyers, and geologists. What they find may kill the deal. Tax liabilities, pending litigation, customer dissatisfaction, changing trends to which the business is not adapted.

If the various reports are favorable, a complete study is then compiled and sent to your directors well ahead of their next board meeting. Assume they approve it. In the case of the buyer, consent of the stockholders usually is not necessary. With the seller, who is disposing of the assets of the company, stockholder consent *must* be obtained. The laws of various states fix different percentages, from a plain majority up to 80 per cent, but we usually specify 90 per cent stockholder approval.

Next, the attorneys for the respective companies get together and prepare the formal contract of purchase and sale. This follows in general the informal agreement mentioned earlier, but covers every foreseeable contingency and sets up a timetable.

There are still several important steps to be taken before the matter can be closed.

1. You clear with the New York Stock Exchange, or wherever else your stock may be listed.

2. SEC approval must be secured. Now the transaction be-



## GET MORE FOR YOUR Roll-Forming Poller

For more than 30 years, Security has specialized in roll forming. This experience, combined with their complete facilities for high volume, low cost production, gives you two distinct advantages—quality and competitive prices. Get Security quotations on your next job—you'll find your roll forming dollar buys more at Security!

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Write today for complete information and illustrated bulletin. The Security Company, 386 MIDLAND AVENUE, DETROIT 3, MICH.







Provide the most efficient, economical method yet developed for feeding bulk materials at instantly controllable rates from a few pounds to hundreds of tons per hour. Flat pan or tubular trough models in sizes that handle any material from fine powders to coarse heavy lumps. Electromagnetic-no mechanical wearing

## . . other SYNTRON EQUIPMENT well suited for automatic production includes

### **ELECTRIC VIBRATORS**

For a positive, free flow of stubborn materials through bins, hoppers or chutes. Variable control of power.



### a-c to d-c Power RECTIFIER UNITS

Selenium Rectifiers from 1" square up to 12"x16" plates. Complete Conversion Units up to 300 kw



### PARTS FEEDERS

Automatically feed parts of nearly any shape or ma-terial—at controllable speeds—single file—in ori-



## SHAFT SEALS

Eliminate leakage of liquids or gases around rotating shafts of pumps, compress-ors, etc. Do not cut or score shaft. Self lubricating.



SYNTRON COMPANY Homer City, Penna. 774 Lexington Avenue

comes public. If the stock of the company you are acquiring is closely held and the owners are willing to sign a statement that they are accepting your stock as an investment and not for resale, you can use the relatively quick and inexpensive "short form" listing. If over 25-30 stockholders are affected, the SEC may require a complete listing, as when stock is offered for public sale. It will take 40 to 60 days to clear with the Stock Exchange and SEC, depending on the type of listing required.

3. If you are acquiring a concern in the same general line of business as you are, you will want to look at the antitrust aspect of the matter. (Does it lessen competition-tend toward creation of a monopoly?) Your counsel may want to secure an opinion from the Department of Justice. And it is now possible to

4. You hustle to keep your public relations in good repair. You can anticipate at least 30 days between your filing with the SEC and the consequent public disclosure, and the time you take possession. It is important to keep up the morale of your prospective new employees through a sound information program, and retain the good will of the customers you are acquiring. You will want to decide who in management will be or will not be retained; to reconcile employee benefits; work out union programs; arrange for transfer of bank accounts, assumption of long- or short-term loans.

Then at last you take possession. You have acquired one or more new plants. And you have probably acquired a good many headaches.

THE END



"It's just for telling time, Mr. Grooby. I know how you hate clockwatchers."



27 Speed Sweep styles and sizes to meet every sweeping need. Write for prices today.

MILWAUKEE DUSTLESS BRUSH CO. 530 N. 22nd St., Milwaukee 3, Wis.



Saves Typing Time . .

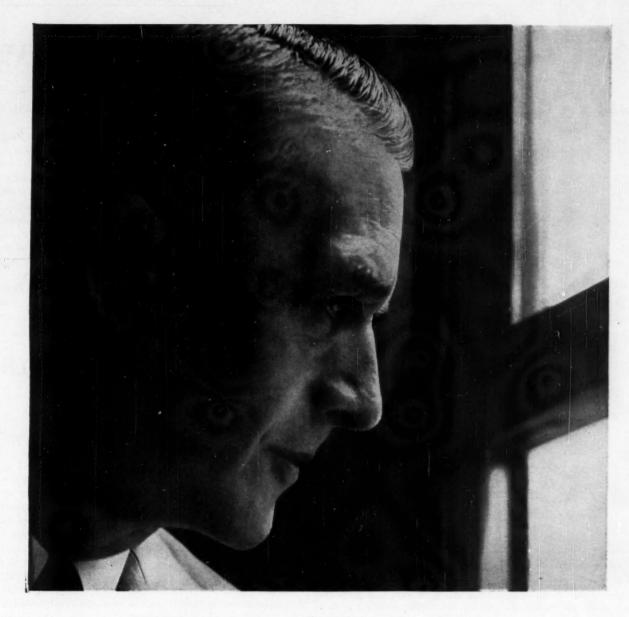
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Panama-Beaver's exclusive patented carbon paper box has a built-in copy holder that flips open with a flick of the wrist. Keeps flips open with a flick of the wrist. Keeps copy material upright and in full view . . . speeds work . . . cuts office costs. Folds up neatly under box lid after use. COSTS NOTHING EXTRA when you buy Panama Beaver Carbon Paper.—America's sharpestwriting, cleanest-erasing smudge-free carbon!

Have the Panama-Beaver representative near you show you the Copy Holder Box without obligation!



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## This is the profile of a bank

MOST OF THE TIME marble and steel disguise it. But after a visit or two to any bank you begin to see its true profile.

It may be the face of a teller, a file clerk, a loan officer or—the president. Whoever it is, this much is certain—the profile of a bank is always the face of the-man or woman in the bank you know best.

Why?

Because banks are people. Tellers' cages, vaults, iron gates—all the familiar symbols of banks—are nothing more than tools used by

human hands to get the job done.

Yes—banks are people. More to the point, they are conscientious professionals who see banking as a career rather than just another way to earn a living.

To Mr. and Mrs. America this says, "Your money (along with your country's financial tradition) is in good hands."

It also means that the business of putting money to work—banking's basic function—is administered by responsible professionals with a keen sense of trade competition, and a

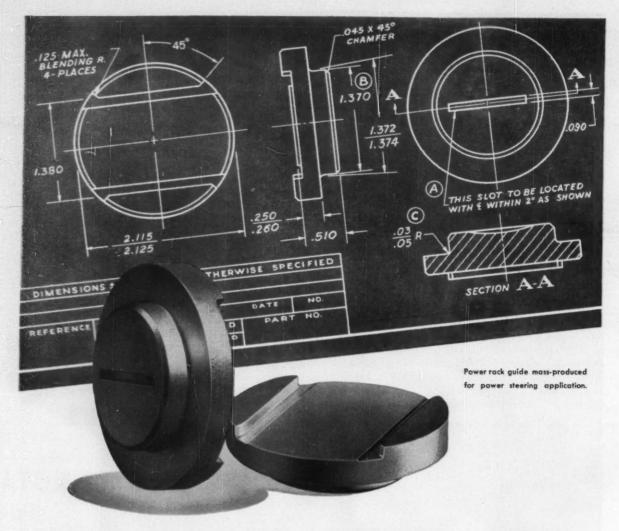
highly developed awareness of customer service.

These people are America's banks. Bank buildings, however simple or ornate, are only their workshops. It is their humanness that transforms facades of marble and steel into faces of friendliness and warmth.

Chase National Bank is proud of the part it is playing in American progress.

#### The CHASE National Bank

OF THE CITY OF NEW YORK
(Member Federal Deposit Insurance Corporation)



## MORAINE METAL POWDER PROCESS MAKES COMPLEX PARTS - AT A SAVINGS

If made by conventional casting and machining methods, this part, which serves many of us every day, would cost more. Made by the Moraine metal powder process, however, the part is mass-produced quickly and economically—to precision standards.

Moraine makes many different parts of complex design from metal powder . . .

parts with a quality and uniformity that make them highly desirable for a multitude of applications.

Many industries are using Moraine's experience in powder metallurgy to reduce the cost and improve the performance of many and varied products. Possibly, Moraine may be of service to you, too.



moraine products DIVISION OF GENERAL MOTORS, DAYTON, OHID

METAL POWDER PARTS

## Progress in plating, plastics, printed circuits

#### Ry for heat and corrosion

When temperatures go above the boiling point, and compounds like nitric acid and hydrogen peroxide must be handled, most of the common fibers and resins fall by the wayside.

But that's just where the new fluorine plastics, commercially known as Teflon, Kel-F, and fluorothene, shine. It's good news, then, that these materials, first available only as rod and sheet, can now be molded, extruded, and sintered to shape, and produced in fibrous, porous, and rubberlike forms.

Teflon laminates are going into flexible and rigid tubing (see April 1954, page 106), gaskets, transformer insulation, and bases for printed circuits (photograph, page 116).

Woven fabrics and felts made of Teflon fiber are ready for use in conveyors and belting, electrical tapes, gaskets and packings, anode bags, and filters.

Kel-F elastomer, a rubbery material that's said to have unusually good strength and elasticity, is expected to find a place in hose, diaphragms, gaskets, protective clothing, and corrosion-resistant paints and sealants.

Teflon and Kel-F in porous form can be used to remove impurities from hot lubricating and hydraulic oils, acids, and solvents.

These porous materials, in cups, tubes, and

sheeting—with a mean pore size as small as 9 microns to catch particles only 3 microns in diameter-are being made by Porous Plastic Filter Company, Glen Cove, N. Y. This company also makes woven Teflon filter cloths and a new Teflon felt (for hot air and gas filtration).

Teflon O-rings and gaskets may be obtained from such companies as U. S. Gasket, Flexrock, Garlock Packing, and Chicago Gasket.

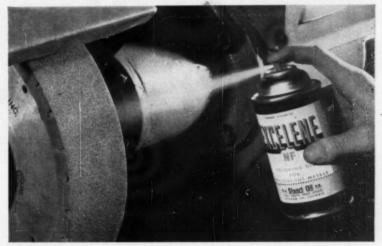
Extruded shapes are produced by Polymer Corporation of Pennsylvania; and Resistoflex supplies laminated Teflon hose and pipe.

Teflon itself is made by E. I. du Pont; Kel-F by M. W. Kellogg Company; and fluorothene by Bakelite. Dixon Corporation offers a number

### **AEROSOLS**

## win new prizes

One of the brightest sales pictures in industry's gallery is that of the aerosol sprays. In 1947, unit sales were 51/2 million. This year, they're expected to top 250 million, with more than 60 different kinds of products offered in this form. Eye appeal, convenience, and product protection tell the story. Du Pont's most recent aerosol market study shows the vast majority of department, grocery, drug, and hardware stores now stock these attractive containers; and industrial use is booming, too. Equipment makers are finding aerosol packages an excellent way to supply dealers and customers with touch-up paints and polishing compounds. Aerosol sprays also help manufacturers to extend product lines and provide extra services. Burroughs Corporation, for instance, has added an aerosol waterless handcleaner to its office equipment line; and Wilbur & Williams Company, which makes maintenance paints, now has an aerosol paint-remover.



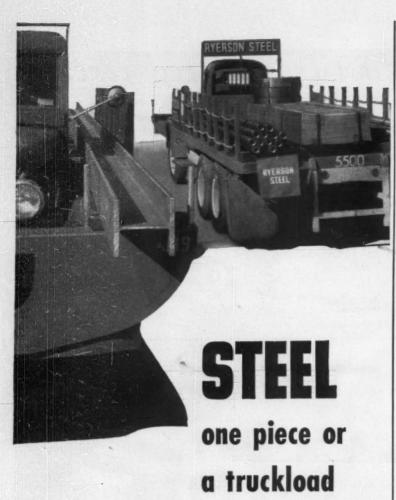
Grinding and polishing oil, developed by D. A. Stuart and Minnesota Mining, is one of many industrial products now in easy-to-use aerosol form.



aerosol packaging contest included these attractive consumer products.



Award winners in recent Chemical Specialties Manufacturers Association New glass containers hold materials that might react with metal cans, also add sales plus to consumer products, as this Du Pont photograph shows.



## Delivered where you want it ... when you want it

Sure we like big orders—and we handle them easily, every day, because our stocks are the world's largest, our cutting and handling facilities unsurpassed. But our business depends on small orders as well, and you'll find we never lose sight of this fact. Whether you want one bar or a thousand—one sheet or many tons, you'll get courteous service—quick delivery. Dependable, certified quality, too. Call us and see.



JOSEPH T. RYERSON & SON, INC. PLANTS AT: NEW YORK • BOSTON • CHARLOTTE, N. C. PHILADELPHIA • CINCINNATI • CLEVELAND • DETROIT • PITTSBURGH • BUFFALO • CHICAGO MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO • SPOKANE • SEATTLE

of special Teflon formulations (see July 1954, page 70), including a variety of filled materials.

#### Production briefs

Magnesium is rolling—out of Dow Chemical Company's big new mill at Madison, Ill., and into consumer as well as industrial products. Shwayder Bros., long a leader in the luggage field, has just introduced a complete line of Samsonite Ultralite magnesium travel cases that are not only light in weight, but also durable, attractive, and moderate in cost. A vinyl coating bonded to the magnesium makes it possible to offer the luggage in a variety of colors in both ladies' and men's types.

Dow is particularly proud of this development, not only because it represents the first mass-produced consumer product to be made of magnesium, but also because it incorporates three other products of the company: *Ethocel* molded plastic end plates, *Styron* coat hangers and jewel boxes, and resins used for the plastic coating.

Chemical plating, too, is on the move—out of the laboratory and into king-sized applications. General American Transportation's Kanigen non-electrolytic process for depositing nickel coatings is now being used on a wide variety of parts, particularly those that are too big or too intricate for easy handling by ordinary means, and for which a low-porosity, corrosion-resistant coating is required.



#### It's easy now

Turn out print wheels on an automatic screw machine? That's not the way it's usually done, but engineers at Friden Calculating Machine Company devised a new pressure technique that makes it possible to turn out wheels—complete with numbers—on a standard six-spindle machine at the rate of three a min-

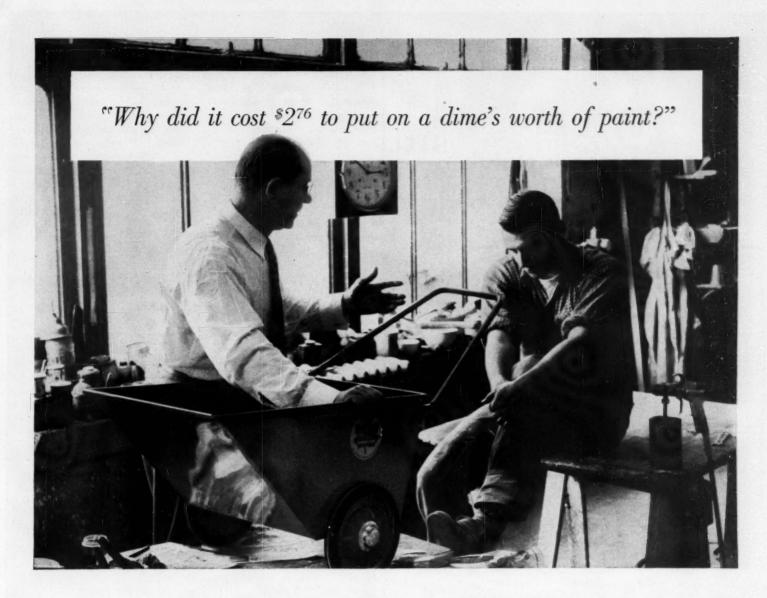
Biggest Kanigen licensee—in more ways than one—is American Locomotive Company. Alco has just built "industry's largest plant for commercial application of chemical nickel-plating" and is ready to do contract work for other firms as well as to use the process on equipment it fabricates. It should be of particular interest, Alco believes, to the chemical, petrochemical, petrochemical, petroleum, and power industries.

The slide rule has a rival in an inexpensive pair of charts developed by E. J. George of Sun Oil Company. According to George, answers to many problems can be obtained two or three times as fast by reference to the charts as they could be with a slide rule. Each of the charts consists of a logarithmic scale with a superimposed logarithmic grid. One is designed for multiplication and division; the other for operations involving square and cube roots, and the like. They can be slipped under the glass top of a desk for ready reference. Copies of the charts may be obtained from the Manufacturing-Engineering Department, Sun Oil Company, Philadelphia 3, Pa. Single copies are 25 cents each.

Strength and ductility are key features claimed by Amplex Division of Chrysler Corporation for its Steel Oilite powdered metal products. Amplex says gears, bearings, and other parts made of the material have an unusually high degree of ductility (10 per cent or



ute. Secret of the set-up lies in design of the hob (it's made of die or tool steel and is twice the size of the print wheel itself) and use of pressure to force the bar stock through the machine. The print wheel and hob are at the left, the automatic screw machine is shown in operation at the right.



Talk fast, mister! . . . Don't worry, the foreman will—with plenty of explanations. But afterward he'll take steps to cut painting costs back to where they should be. And keep 'em there.

Who's the hero of this drama? Keysort punched-card accounting. The boss learned through Keysort operation costing that things were getting out of hand in the Finishing Department. On certain operations the figures were far higher than last week's. Knowing the score—and knowing it on time—the boss could move quickly

to bring his cost picture back into focus.

Moral: a McBee Keysort installation can give you comprehensive, accurate reports on every phase of factory operation, and give them to you *fast*. On your desk by the 4th of each month. Important interim figures weekly, or even daily. Whether yours is a 100-man payroll or a colossus supplying the whole country. The cost? Surprisingly low.

There's a trained McBee representative near you. He'll be glad to show you how it's done. Or write us.

## McBEE



## Punched-card accounting for any business

Manufactured exclusively by The McBee Company, Athens, Ohio • Division of Royal McBee Corporation
Offices in principal cities • In Canada: The McBee Company, Ltd., 179 Bartley Drive, Toronto 16, Ontario

## CLIP THIS... to keep your trademark right in your customer's hand!

#### ZIPPO MANUFACTURING CO.

Dept. D-22, Bradford, Pa.



Please give me full information about business gift Zippos—prices in large or small quantities, time of de ivery, opportunity to use color, and the help your design department will give us in making a beautiful and distinctive gift.

Name

-

Address

Thousands of trademarks jostle one another for attention in today's market place. Make sure that yours is often seen! Have it engraved in rich, authentic colors on the satiny surface of a Zippo—as a business gift, or special award within your firm.

Then your message will flash into view 20 . . . 40 . . . 60 times a day, just as surely as each Zippo flashes into flame. Your trademark becomes a valuable selling tool, giving long, long mileage at very modest investment.

Whether your business is old or new, its special quality will be faithfully reflected by the special quality of Zippo. Superbly made to work easily and perfectly under any conditions, Zippos become cherished lifelong companions—used proudly at business meetings... on social occasions and outings. And your trademark travels with them, always! Send the coupon now!



Lights easily...anywhere...always

Genuine Zippo Fluid and Flints make all lighters work better.

ZIPPO MANUFACTURING COMPANY, BRADFORD, PA.

more) and a strength comparable to that of low carbon steel. Wear resistance is reported to be good, too. Amplex has been field testing these sintered steel parts for the past two years, is now ready to supply them in quantity.

Carbides cut wood as well as metals, Carboloy Department of General Electric reminds. In machining slats for wood seating, for example, carbide cutting knives may outperform standard tools by as much as 50 to 1. And a new woodworking planer (also usable on rubber and plastic tile, shoe soles, and brake linings) equipped with a carbide cutting edge is said to produce better-quality parts faster as well as to get around the dust problems involved in sanding and grinding.

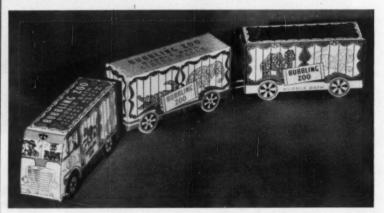
**Paints** that are more fire-resistant and coatings better able to stand the tough conditions of jet engine

operation are promised by new additives and resin bases.

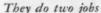
According to American Potash & Chemical Corporation, its new water-soluble borate additive, Borotherm, not only acts to suppress the flame-spread rate of organic paints, but also helps to protect the base material. It is compatible with a number of resin latices and polyvinyl acetate emulsions, and can be used in either primer or finish coats. The quantity added generally ranges from 4 to 14 per cent (dry solids basis).

From Britain comes word of a "supersonic paint" with an epoxy resin (see February, page 81) base. Produced by Cellon, Ltd., Kingston-on-Thames, Surrey, England, it's said to be an air-drying composition that resists softening at supersonic speeds and temperatures to 400° fahrenheit, and resists attack by jet fuels, lubricants, and hydraulic fluids.

Section continues on page 116



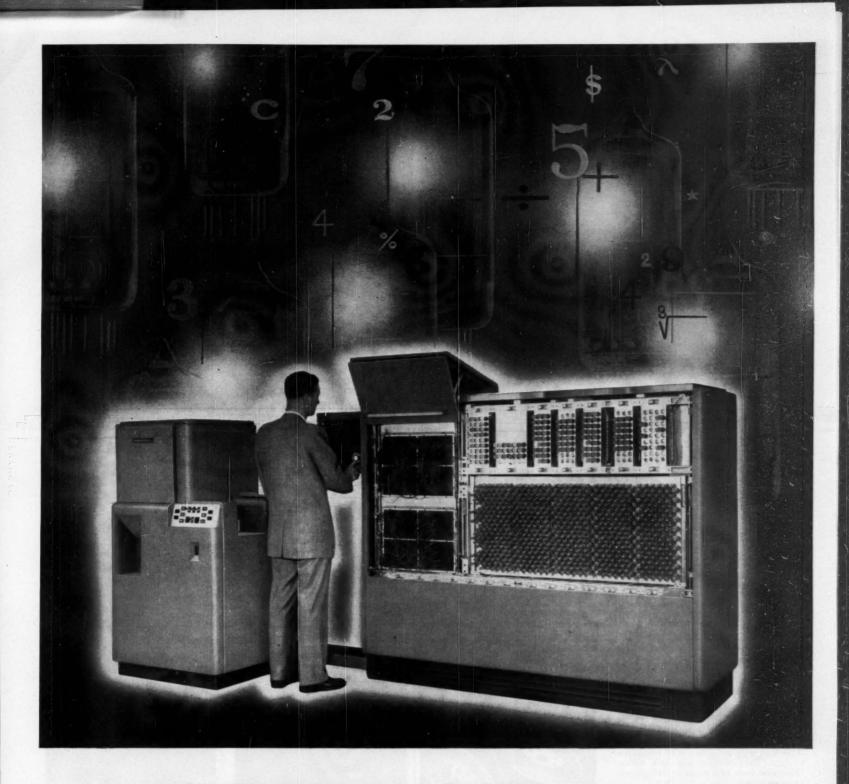




Good examples of dual-purpose containers that can help products win new customers are the three cartons pictured here, all made by Angelus Paper Box, division of Robert Gair Company. The circus train (top) is a bubble bath container that doubles as a toy. The hexagonal pill box (left) serves as a dispenser for two types of vitamins,



helps boost use of both. And the embossed toast-holder carton at the right is designed for year-round gift sales as well as for display and protection. Companies looking for sales-boosting ideas like these will find a wealth of them on display at next month's Packaging Exposition in Chicago's International Amphitheatre (April 18–21).



## DOES UNIVAC 120 REALLY THINK?

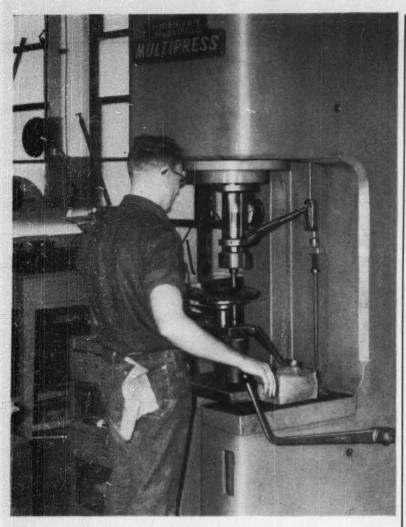
Many executives who use today's most advanced punched-card computer say . . . "Yes!"

Because..."It makes dozens of recordkeeping decisions and calculations every second"..."It figures out the complete story on our profit changes whenever we want it" ..."It simplifies and solves our most complex payroll, production and billing problems." The Remington Rand Univac 120 actually does replace routine human thinking. Take time-keeping for example. It arrives at pay hours while allowing for thousands of variations in shift time, pre- and post-shift time, lunch hours, etc., checks its own results, spots obvious human recording errors and flags them for correcting.

Does Univac 120 eliminate intelligence?

Certainly not. But it does free your skilled personnel for creative thinking. Wherever you pay for clerical chores that involve analyzing, classifying, making logical decisions, comparing and calculating... Univac 120 electronic methods will earn their way over and over again in your organization—in speed, accuracy and efficiency. Put it squarely up to us to show you how and where.

ROOM 1306, 315 FOURTH AVE., N.Y. 10 Remington Rand Punched-CARD ELECTRONICS



One man,

#### one DENISON MULTIPRESS®

... 9 times the production per man

At Barber-Greene Company, they've tripled production for riveting together two halves of a ring gear assembly

With former hot rivet method, the best a three-man team could do was 10 assemblies an hour. The operation was slow, noisy. Distortion from heat made a boring operation necessary

With cold riveting, using Denison's hydraulic Multipress, flow of metal is better, more uniform. There's no heat, no warpage One operator rivers 30 assemblies an hour

You can get the same results. Send for bulletins and case studies on applications in the one-to-75-ton pressure range. Write to:



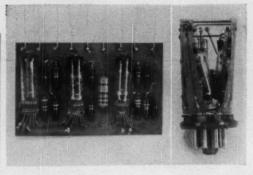
#### THE DENISON ENGINEERING COMPANY

1162 Dublin Road . Columbus 16, Ohio



HYDRAULIC PRESSES PUMPS . MOTORS . CONTROLS





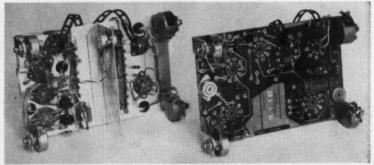
Etched-on-Teflon printed circuit "packages" that can be formed to shape (right) are now of-fered for sale by Audio Products Corporation. Printed Circuits Pay Off

Faster production, better performance, space-saving design . . . these are only a few of the gains racked up when silk screen printing and photoengraving replace old manual wiring methods in production of electrical circuits. General Electric, for instance, reports that use of printed circuits in its Thymo-trol adjustable speed drives makes possible a new, simpler control system-and a 20 per cent reduction in price.

No wonder printed circuits are rapidly moving into television receivers, oscillographs, electronic computers, and Geiger counters.

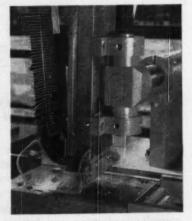
And new technical developments promise to extend this list considerably—developments like Eastman Kodak's Photo Resist technique, in which a light-sensitive plastic coating is used to reproduce circuit designs; Formica's ready-to-etch copper-clad laminates; Aerovox Corporation's embossed printed wiring; and Audio Products' "packaged" circuits (above).

To top all this off, there are new miniaturized components like the National Bureau of Standard's adhesive tape capacitors, and automatic machines (picture below) to keep production zooming.



Simplicity of printed circuit construction is illustrated by new DuMont oscillograph. Printed circuit subassembly is at right; conventional at left.





Printed circuit production at Admiral starts with picture of wiring design (left), reproduced on copper-faced plastic. Etching leaves conductive lines on the base; then automatic machines (right) set other components in place.



Africa, a storehouse of almost every raw material used in our industrial society, is a land of contrasting climes, races, and political systems. This polyglot continent in years to come will be increasingly important to the world's economy. Answer the following questions about Africa, past and present, and then turn to page 122 to see how well-informed you are. Give yourself ten points for each correct answer; to qualify as an "old Africa hand" you should score 70 or better.

	if ten points for each correct answer, to qualify	y as an ou
Africa hand	d" you should score 70 or better.	
1. One of the most significant economic developments in South Africa has been the recent extraction of an important metal from gold slimes. It is:  ☐ Uranium ☐ Aluminum ☐ Bauxite ☐ Copper	6. The lack of which of the following is the greatest hindrance to industrial development in South Africa:  Natural Resources Investment Capital Skilled Labor Adequate Electrical Power	11. In 1871 the world's richest diamond center was first worked; it is the:  ☐ Kimberley Mine ☐ Great Southern Mine ☐ Transvaal Mine ☐ Southern Cross Mine  12. The Gold Coast is the world's largest ex-
		porter of:
2. A mystical native cult which undertook a few years ago to eliminate all whites in Kenya is the:		☐ Tea ☐ Vanilla ☐ Cocoa ☐ Coffee
□ Zambesi □ Uganda □ Hottentots		13. South Africa was an agricultural country until 1867 when a discovery on the banks of the Orange River brought in a great period of eco-
3. In 1956 Britain will withdraw all troops from an area important to the defense and economy of Northeast Africa, ending a 72-year occupation. That area is:	A MARINE SE	nomic development. What was the discovery?  □ Diamonds □ Copper □ Oil □ Aluminum
☐ Ethiopia ☐ Suez ☐ Mozambique	7. Continental Africa is the chief source of uranium for America's atomic energy program. What nation other than South Africa is an important producer?	14. The first British colony to win self-government in Africa was:  Signia Uganda Ethiopia Gold Coast
TAC	8. Which two of these nations do not allow citizenship to whites?  Gold Coast Ethiopia Liberia	15. A hundred years ago most Africans living below the equator had no knowledge of:  ☐ Stone Implements ☐ The Wheel ☐ Metal Tools ☐ Reed Spears
A THE WAR THE	9. The founder of the de Beers Mining Company and one-time Prime Minister of South	
4. The British Treasury invested and lost over \$100 million in the Tanganyika Agricultural Corporation, which attempted unsuccessfully to grow in Tanganyika:	Africa was:  ☐ Cecil Rhodes ☐ Henry O'Dwyer  ☐ Louis Mountbatten	
□ Peanuts □ Sisal	10. A country in West Africa which was col- onized by freed American slaves in the first half of the nineteenth century and which has been	16. Practically all industrial diamonds come
5. The recent Prime Minister of South Africa, who retired November 30, 1954, was:	politically independent for more than 100 years is:	from the dark continent. Which of the following is also mined in large quantities there?
☐ Jan Christian Smuts ☐ Daniel F. Malan ☐ Albert Schweitzer ☐ George Jean Nathan	☐ Liberia ☐ Angola ☐ Nigeria ☐ Bechuanaland	☐ Gold ☐ Aquamarine ☐ Tin ☐ Aluminum

## New-type plating anodes reduced finishing costs

"Mr. Cost Cutter" shows how plant offset initial expense of the new equipment with actual dollar savings

When one plant replaced ordinary flat-type lead anodes used in chromium plating with the new cylindrically shaped Unichrome Round Anodes, the improvement in operations was immediate—and substantial.

This simple change eliminated former weekly need for two men to lift all the flat anodes out of the tank, brush them clean, and correct their warpage – all at overtime pay. Within months, this saved as much in maintenance as the new anodes cost initially. What's more, the Unichrome Anodes plated better with less power, enabling a standby generator worth \$29,000 to be switched to other work!

An original development, the new Unichrome Round Anode represents just one more of the many tangible benefits from United Chromium's long experience with metal finishing problems. May we put the entire scope of this experience with protective coatings, plating processes and equipment to work for you?



#### MORE WAYS UNITED CHROMIUM HELPS CUT COST OF COATING METALS

#### More durable protection

Only Unichrome Coating 218X is now used to insulate zinc plating barrels in one automotive accessory plant... because it proved to be the most durable of all plastisol coatings tested for this job, and therefore the most economical.

#### **Chromium plating economies**

Recent reports show: Unichrome SRHS Chromium Solution cut power costs 60% for one user. . . . It saved about \$3000 a year for another plant by cutting daily bath additions from former 500 pounds down to 300.

#### To finish it better and SAVE call in "The Unichrome Man"



#### UNITED CHROMIUM, INCORPORATED

100 East 42nd St., New York 17, N. Y.

Waterbury 20, Conn. • Detroit 20, Mich Chicago 4, III. • Los Angeles 13, Calif. In Canada: United Chromium offers you the advantages of: (1) 25 years of specialized experience in metal finishing; (2) Wide experience in both organic and plated finishes; (3) A diversified line of products for decorative and functional finishing—including plating processes and equipment, protective coatings, chemical conversion coatings for zinc; (4) Thinking geared to cost-cutting productimproving possibilities.

We'd welcome an opportunity to help you "Finish it better AND SAVE."

#### TRADE ASSOCIATIONS

Continued from page 39

Many a trade association has found it easier to subscribe to an admonition that, "You must stop beating your wife," than to fight through a proof that the wife never had been beaten. But more often than not it would appear that the victims of this undeserved blame could have avoided it if a "publicrelations subconscious" had been developed by the association members. If association directors would remember that the public dislikes being a "fall guy," and is always ready to believe that it has been cheated, much trouble with these Government regulatory agencies could be prevented.

We must also remember that the average newspaper reporter, and the average reader of his handiwork, are unable to discriminate between the real and apparent sins of organized business groups. Real conspiracy, collusion, and antisocial behavior look little different to the public than allegations thereof based on misinterpretation.

These points may be clarified by considering some actual examples, without revealing the names of the associations or the industries involved. In some, the trouble has already occurred, and perhaps the industries will be recognized by the reader. In others, the trouble is potential and I have taken care to prevent identification of the product.

Case 1: Consider the association whose members make many grades and colors of a product, but the sizes they offer are standard by reason of long-established custom and, on some items, legal requirements. A member of this industry decided that life would be much simpler for his salesmen if he quoted his colors, patterns, and grades of goods for only one standard size. He then figured the prices of other sizes by percentage differential from that standard. His scheme worked well, was followed by other manufacturers, and finally was published by the association to make it more widely available.

Right here is where some publicrelations thinking could profitably have entered the picture. The plan saved trouble for the industry's distributors and customers, and harmed no one. By its nature, and because of its voluntary status, it could not be used for price-fixing. But it was in the area of price, a caution signal to any association.

Could this plan have been presented in such a way as to forestall misunderstanding? What phases of it could the zealot suspecters of business twist or misinterpret? What legal or publicity steps were desirable in order to forestall Government complaint or action? Too often a discussion of such questions as these has been avoided for fear of scaring the members.

So the defensive plans and steps were not made. A non-member, with a grudge against two members of the association, reported them and the association for price-fixing. An FTC investigation followed. Proof of innocence, finally achieved, was a long and expensive ordeal during which the association lost a number of timid members.

How easy it would have been to publicize the vast variety of colors, grades, and patterns of goods available; to explain how each member was free to use the plan or not, and free to set his own base prices; and to describe some of the many exceptions to the price differentials found desirable by members who put it into actual use. The existence of such information would probably have prevented all the trouble—and would have made the defense easy.

Case 2: This is a hypothetical industry, but with circumstances drawn from two actual cases.

Every member of the industry makes some standard products made by all the others, and some specialties strictly his own. The standard products, made to uniform specification, necessarily have to carry the same prices in lists published to the trade. The member who prices above his competitors will drive away business. No association action or activity is involved in any way, yet there is danger.

It is sad but true that the very existence of this apparent uniformity of price, a natural result of competitive forces, presents a problem in public relations that the association cannot afford to ignore. This problem is more common than the one described in the previous case, but more difficult. Except when faced with a present threat of trouble, the members will not see much



Monroe, the most automatic of all calculators, brings you Automation, today's labor-saving industrial miracle.

Take the new Monro\*Matic 8N, for instance, introduced just a few months ago. Business men were quick to recognize the 8N as the one calculator that reduces worka-day figuring to feeding numbers, pushing buttons.

On zeros and decimals alone, because they are fully automatic, the 8N is way ahead. Work flows faster and chance of human error is eliminated. Multiplication and division, in fact every type of figuring problem is easier, faster on the Monroe 8N. From routine arithmetic to payroll and invoice work, to the most intricate statistical calculations, it eases through them all! And, after each problem, the 8N automatically readies the carriage for the next.

The Man from Monroe, listed in your classified telephone book, has the whole story. He'll show you why Monroes, the only calculators with Automation, breeze through your toughest figuring work. And the trial is on us! Monroe Calculating Machine Company, Inc., Orange, New Jersey. Branches Everywhere.

OPERATORS WHO KNOW... PREFER MONROE CALCULATING, ADDING, ACCOUNTING MACHINES

Now your new plant can have
This ceiling that needs no painting!



The newly developed Ingersoll Aluminum and Porcelain Enameled Roof . Decks provide permanently attractive industrial ceilings that need no painting

and require virtually no maintenance. Your savings in both shut-downs and maintenance costs add up and up with the years. Installed cost is remarkably low, too! Be sure to learn all about these important new Borg-Warner-engineered Roof Decks.



## Write for details!

Get these 2 new illustrated Ingersoll Roof Deck bulletins. They give full details. No obligation.











ARNOLT CORPORATION WARSAW, U.S.A.

sense in trying to demonstrate that some goods are sold below list price to good customers, though they all know it is happening. In fact, an effort to assemble such information might in itself create an Anti-Trust or Robinson-Patman Act hazard.

However, there may well be opportunities to compare the industry's price trend, as reported in trade journals, with the trend of a price index or with other commodities in such a manner as to show that the customers have been getting a progressively better money's worth over the years. There are many ways to call attention to vigorous and healthy competition.

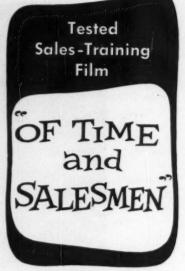
#### Not All Black

In some cases it might be desirable to inspire a trade journal or an economic research foundation to make a study of the industry's prices and the degree to which actual sales prices differed from list prices. Later, if trouble develops, this fact can always be proved by an analysis of all invoices covering a sample period.

Case 3: Here is an industry whose products can only be sold on an installed basis, and local contractors have commonly performed that service. Because most of these contractors are small operators with limited knowledge of costs, they need help in their pricing and merchandising. A leading manufacturer in the industry offered contractors a suggested schedule of mark-ups. Several other manufacturers followed the leader in offering suggested installed prices, and some posted such inclusive prices on their merchandise in public showrooms. The industry's volume increased, by reason of better installation and service through more responsible contractors who were able to stay in business and stand behind their work.

However, misrepresentation by a few contractors led to trouble for the manufacturers' association. The unscrupulous contractor could quote the gullible customer the installed price as though it covered the merchandise only, showing the manufacturer's printed list for support, and add his installation charge a second time.

A fraternal organization, filled with righteous indignation, and a demagog Congressman, filled with thoughts of the next election, joined



## now available for purchase

The new Dun & Bradstreet sales-training film, "Of Time and Salesmen," dramatizes the effect of inadequate work organization on a salesman with a quota to meet and a schedule to maintain. And it outlines a simple system of pre-call planning that can easily be adapted to the needs of almost any salesman in almost any territory.

almost any territory.

"Of Time and Salesmen" is available for showing before sales meetings and business groups without charge, subject to scheduling limitations. It is a 32-minute, 16 mm, black and white sound movie, and has been shown more than 1500 times before leading sales organizations.

Because of consistent heavy demand for screenings, some companies have experienced difficulty in scheduling multiple showings at sales meetings in various cities or at different times. At the request of a number of companies, prints of "Of Time and Salesmen" are being made available for purchase at \$100 each.

For further information, or to obtain a print of "Of Time and Salesmen" for preview, send the coupon below.

DUN & BRADSTREET, INC. Dept. 11 • 99 Church St. • N.Y. 8, N.Y.
☐ We have seen "Of Time and Salesmen" and are interested in purchasing
☐ Please send us without obligation one print of "Of Time and Salesmen" in order that we may preview it on one of the following dates.
(Because prints are so much in demand, we must ask you to indicate three dates.)
1st Date 2nd 3rd
Company
Name Position
Address
City Zone State

forces. The industry presently found itself faced with an FTC complaint. Wouldn't an advance conference with legal and public-relations advisers have led to a better result? The danger of abuse might have been foreseen and a different pricing method adopted, or some means might have been found to prevent abuse by unscrupulous distributors. The cost would have been a fraction of the defense costs.

#### On Market Research

Case 4: This industry's sales are tied absolutely to the number of newborn infants. Thus, the sales potential for any community, or sales territory, is the number of births in the area. Since most of the manufacturers are too small to operate market research departments, compilation of this data was a natural for the trade association. Unfortunately, the association, in publicizing the plan, suggested that each member send in his sales territory and offered to give him monthly, for that territory, a comparison of his relative performance against the sales potential of the territory. Presently the association found itself the target of a complaint that it had allocated sales territories.

This charge was easy to disprove, but it cost the association and its members a lot of time and money. Investigation quickly revealed that many a member was covering sales territory for which he had not asked market potentials, and many another had abandoned areas for which he was still obtaining the data. But think of the trouble that might have been avoided if the original circular from the association had offered "market potential" data, instead of requesting sales territories.

There we have the disguised histories of a few instances where public-relations thinking, plus cautionary legal advice, could have saved much damage. In every instance the association activity was, or is, valid in terms of its benefits to the public and the industry, and in no instance was the association operating illegally in the light of existing court decisions. This is not a plea for the attitude of supercaution that would paralyze effective association work, but for the foresight and public-relations thinking that

will safeguard these efforts against an untimely end.

Several trade association executives with long and wide experience have been kind enough to read the above material in draft form and have added some comments. From their experience these experts suggested a word of caution to the reader. Cases one, two, and three above involve the aspects of the pricing of an industry's product and it must be remembered that any effort to agree upon prices, discounts, or specific methods of arriving at a price are almost certainly illegal.

These cases are not cited to make the reader believe that there is a way around the law. They do demonstrate how easy it is for accessory

**>>>>>>>>>>>>>>** 



The AUTHOR

Walter Mitchell, Jr., graduated from Yale University and became a Resident Fellow of the Brookings Institution in Washington. During the Hoover Administration he was a member of the staff of business analysts in the Department of Commerce.

As director of business surveys and assist-

As director of business surveys and assistant to the president of DUN & BRADSTREET, INC., he planned and supervised many studies for trade associations, Mr. Mitchell gathered more experience in this field as managing director of the Controllers Institute of America. He is now an independent consultant specializing in market planning and economic analysis.

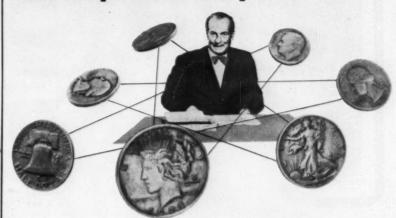
#### \*\*\*\*

aspects of management problems to appear to the public and the Government as machinery for pricefixing, when, in fact, nothing illegal has been attempted or done.

Nor is it the intent here to discourage any trade association or individual concern from consulting legal counsel in these matters. The ideas advocated here might be described as added safeguards to activities that are actually legal but might be misinterpreted.

The hard-pressed business man is not entirely without legal means of alleviating some of the worst of the trade practises that occasionally build up in an industry. The trade practise conference procedure of the Federal Trade Commission is a means by which an industry may be put back on its feet after a disastrous

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price war when everybody in the industry gets so he distrusts everyone else. In the heat of battle the inhibitions of the Robinson-Patman Act against selling below cost, price discrimination, and so forth, are forgotten or disregarded. Once this chain reaction has started the unfair-trade practises become standard practises. No one company can stem the tide, but a trade practise conference of the industry can.

The above discussion is almost entirely in terms of manufacturers' problems. However, the benefits of trade association membership—and the value of public-relations thinking as a means of preventing trouble—apply with equal force to the distribution and service trades. The benefits and hazards are no less in small trades than in large ones.

In that connection it might also be remarked that no industry need lack a trade association because of its small size. It can either join forces with other related industries to produce a federated association, or it can turn its affairs over to one of several very competent management concerns.

In conclusion, let every reader whose company is a member of a trade association give a moment's thought: Is our association and my company faced with some unnecessary and removable hazards?

The public-relations effort that will give an honest industry an even break—and assure a fair hearing by the public—must start years ahead of the potential zero hour for trouble. By the time symptoms of trouble show plainly it's too late for vaccination to do any good.

For the reader not now a member of any trade association, the cases described above indicate only a small fraction of the association activities that could save costs or build business for your company. Data on other valuable phases can be obtained through the United States Department of Commerce, the National Association of Manufacturers, the Chamber of Commerce of the United States, or from books on the subject.

Anyone who would let this discussion deter him from joining, or helping to form, a trade association probably never ventured into the business world for fear of that other well-known hazard—competition.

THE END



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#### QUIZ ANSWERS

Quiz appears on page 117

- 1. Uranium.
- 2. The Mau Mau. They are members of the Kikuyu tribe, the largest native group in Kenya. Kenya's population is made up of 5½ million Africans, 90,000 Indians, 30,000 European whites, and 24,000 Arabs. Britain in recent years has given ministerial posts to both Africans and Asians in an effort to relieve dissatisfaction with all-white rule.
- 3. Suez. Britain will keep civilians in certain sections of Suez for maintenance work and instant mobilization in event of emergency. Any attack on Egypt or a member of the Arab Defense League will mean, by the present agreement, that Britain may use the Suez on a war footing. The current arrangement is designed to run for seven years.
- 4. Peanuts, or "ground nuts" as the British called them, not wanting to identify the loss as merely peanuts. 5. Daniel F. Malan, who came to

power in 1948.

- 6. According to the South African Reserve Bank, a real crisis exists because of shortages of skilled labor there. Four-fifths of the population are prohibited from learning technical skills. Masons, fitters, riggers, and pipe and track men are especially needed in the mines, few of which can operate at full capacity because of labor shortages. The largest single business in Africa is the South African Railway, which employs every eighth man in South Africa between the ages of sixteen and sixty-four.
- 7. The Belgian Congo is at present our most important source of uranium. Soon South Africa will lead in production.
- 8. Both the Gold Coast and Liberia.
- 9. Cecil Rhodes.
- 10. Liberia.
- 11. The Kimberley Mine.
- 12. The Gold Coast supplies about two-thirds of the world's cocoa.
- 13. Diamonds,
- 14. The Gold Coast, which became fully self-governing in June 1954. Complete independence and Dominion status within the British Empire come in 1956. Nigeria will have the option of self-government in 1956.
- 15. The wheel.
- 16. One-half of the world's gold comes from Africa.

and





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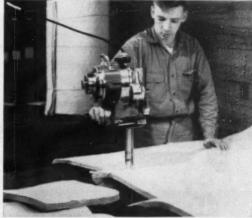
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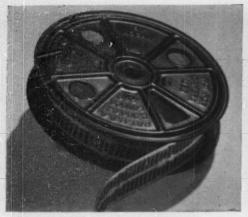
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## LABOR UNITY EFFECT: Mostly Political

## Bargaining impact slight for present

Formal reunification of the AFL and CIO, which may be accomplished by the end of this year, is likely to have only minor immediate effect on collective bargaining and management-labor relations at the plant level.

First fruits for the merged labor movements are much more likely to come from the fields of legislation and politics, where the division of the unions has weakened them more than on the organizing and bargaining front in recent years.

Such is the almost universal conclusion of labor and management representatives and the middlemen in arbitration and the academic world. A few labor people expect local bargaining units to gain by showing greater confidence, based on the security of having a united local and national labor movement behind them. And a few management spokesmen, decrying a specter of labor monopoly, also expect some tougher bargaining. A few, in addition, expect a management benefit from elimination of jurisdictional rivalry of opposing unions.

The evidence available for forecasts indicates, however, that these dissident views will find little justification in events. Eventual effects on plant-level relations are likely to be:

1. Changes in the "rules of the game" which the unions may be able to wring from state and federal legislative bodies as a result of increased political strength.

2. Where bargaining has broken down, the effect of all local unions being in a single camp may strengthen the striking organization. To the extent that sister unions are permitted by law or contract to respect others' picket lines, the striking unit will be able to put up a tougher battle. Some AFL unions, particularly, can be of great assistance to an industrial union in shutting down a factory tight.

3. In a limited number of cases, where rival AFL and CIO units now attempt to organize the same plant, or to steal an organized unit, management may obtain surcease from the demoralizing effects of such rivalry.

The amount of such counter-organizing is not great, however, for one thing. For another, some of it will undoubtedly continue, because the peace pact between the AFL and CIO contains no provision for compulsory settlement of interunion jurisdictional claims.

Voluntary agreements to settle such disputes by a form of umpire or arbitration proceeding have already eliminated many of the dual organizing efforts; but the refusal of the teamsters union, as an example, to sign any such concordat, assures that, though peace may be wonderful, it won't be completely wonderful.

The rather contrary argument that merger of the federations will create a labor monopoly by depriving management of the opportunity to play one union against another seems to run afoul of both facts and policy considerations.

Undoubtedly, some managements have been able to play off one union against a rival, but there are two big drawbacks to use of this tactic as a general rule:

1. It is difficult, legally, to bring another union into the picture at management's convenience. The company can, normally, take advantage of a two-union situation, but it can hardly set about creating the situation without laying itself open to unfair labor practise charges before the NLRB.

2. It has been an almost universal finding that existence of rival union campaigns among a plant's workers harms morale, hurts production, engenders a host of time-wasting grievance cases. Proof of the damaging effects of long-continued inter-union campaigning led Congress to grant management the right to call for an NLRB election to bring such disputes to a head. Unions had previously had the sole right to ask for a collective bargaining election. If either or both felt unsure of results, the election could be held up for long periods. The Taft-Hartley amendments to the labor law therefore

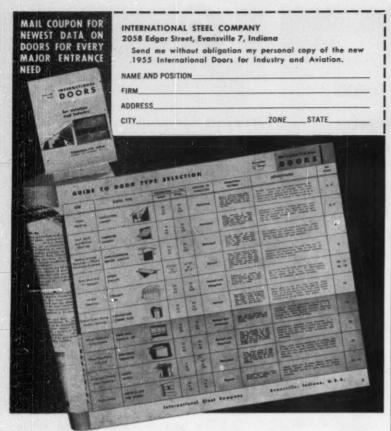


Medicine men have haircuts on company time

Because its new plant is five miles outside Kalamazoo, The Upjohn Company, one of the big five pharmaceutical manufacturers, not only operates a fleet of sixteen buses to take employees to and from work, but also has on the premises a modern barber shop (left) where they can get haircuts on company time. Buses (right) not only take employees to and from work but also, on occasion, bring families to the plant to share in some of the recreational facilities. At the plant are a

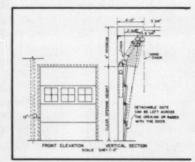


golf-driving range, courts for softball and other games, and a large lounge stocked with books, magazines, records. Employees punch no time clocks, in Summer get an hour off every day, without loss of pay, to take care of their lawns—an enthusiasm of the founder, Dr. William Upjohn. Among the results: turnover rate is only 13.5 per cent, absenteeism is only 2.9 per cent, and job applicants are always available.



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gave management the right to call for a count of heads.

The fact is that, as of now, most companies face only one union with a claim to representing the employees within a given bargaining unit. Many companies deal, of course, with a variety of unions, often in the same plant. But the different unions represent different bargaining units, as defined by the NLRB, and present-day NLRB rulings tend to create more such units, rather than less. Nothing in the AFL-CIO merger is likely to affect this NLRB policy.

In political elections and before legislative committees the story will be different. The man to watch for a cue here is probably Walter Reuther, especially if he pulls his auto workers' union through his upcoming guaranteed work and wage program with any degree of success.

## 2,000 sit in on bargaining session

Saul M. Silverstein is a man who likes to have as many as 25 to 40 of his 350 employees sit in on annual contract-bargaining sessions between the Rogers Corporation, Rogers, Conn., of which he is president, and the International Brotherhood of Paper Makers, AFL, which represents his plant production and maintenance people.

Last month, however, he performed before the biggest audience that has ever seen the give and take of the bargaining room at one time. Some 2,000 personnel men and women attending the spring Personnel Conference of the American Management Association watched the Rogers Corporation bargaining by closed-circuit TV on a movie-size screen in the grand ballroom of Chicago's Palmer House.

It was a good performance and was a great deal more true to life—and unaffected by the invading TV cameras—than most people had expected it would be. Both Silverstein and Frederick J. Rochford, international vice president of the Brotherhood of Paper Makers, handed out a good deal more sharp talk than they took. The controversy—over wages and the existing Share of Productivity plan—had plenty of bite.

When the televised portion of the session came to an end, the audience was left with a gnawing curiosity like that at the end of Frank Stockton's tale, "The Lady, or the Tiger?"

Silverstein, backed up by six company officials, and Rochford, by 22 union men and women, were brought to Chicago by the AMA for the session, third in a series on the 1955 contract. They bargained in another room of the hotel, and a half dozen came down to the ballroom after the TV session to answer a large number of questions from the floor.

The AMA contemplates releasing a kinescope version of the session for use of trainers, business schools, and the like. Audience reaction would indicate the film would go over well among any group of personnel people as pure entertainment, as well.

Both cost and a natural shrinking from broadcasting the details of industrial family tiffs would seem to indicate a small future for TV in this field. Stable relationship of union and company made it fairly "safe" to broadcast on this occasion, although Silverstein confessed his board had been nervous about the outcome. Patronage of the AMA, of course, made it financially possible.

That some managements, and perhaps some unions, would like to have complete participation—or observation, at least—in such affairs is indicated by several things, however. One member of the audience, for instance, apparently assuming the union was responsible for the size of its delegation, asked why Silverstein put up with the expense (he pays committeemen for time spent in bargaining).

Rochford, the union representative, said his group would be satisfied with a much smaller delegation. It was Silverstein who urged big attendance. At monthly semibargaining sessions he asks the union to bring in different members on a rotating basis.

"Where," he asked, "can you get better and more effective communications at the same cost?"

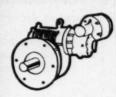
Last December the Teamsters' Local 1145, AFL, took a step in the same direction when it televised a portion of its negotiations with the Minneapolis-Honeywell Regulator Company over an open circuit on a regular TV program it sponsors. In this case, no actual ne-

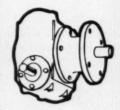
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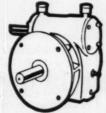


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gotiating took place, but both company and union presented their positions on wage increases to the public before bargaining began. H. S. Olson, company personnel director, and Robert I. Wishart, secretary-treasurer of the union, represented the parties. Their presentation was like the reading of formal demands which usually takes place before the bargainers take their coats off and get to work on the

In another case, an upstate New York company and union have permitted tape recording of the entire procedure of negotiating a new contract. Purpose in this case was not wider information for employees or public, but to furnish material for an academic study of the process. Neither the study nor the recording have been made available to the public yet.

#### "Telespondence" course in labor

The aspiring personnel man or union leader may now go to school in smoking jacket and bedroom slippers, while sipping on a refreshing can of beer if he desires-if he's within range of Station WATV, Channel 13, in Newark, N.J.

Rutgers University's Institute of Management and Labor Relations last month initiated what it calls a "telespondence" course in management-labor relations for stay-athomes. Class convenes at 8 P.M. every Monday for thirteen weeks, with Dr. Monroe Berkowitz, Rutgers assistant professor of economics, as instructor.

TV participants have been given -for a \$1 fee-a class outline to follow and will be given a written examination at the end of the series. A certificate of completion, but no academic credits, will be granted all who pass the exam.

In the studio Dr. Berkowitz has a live class of three personnel men, three union men, the director of information for the State Farm Bureau, and two women-a high school director of social studies and a housewife.

The telespondence course is a follow-up on an eight-week, closedcircuit television class that Dr. Berkowitz conducted for the New Jersey State Department of Education's experimental TV station last



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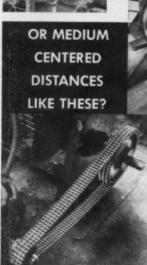




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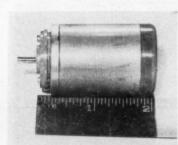
## in Business

WHAT'S NEW

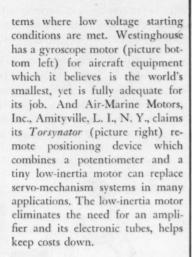
#### AS OBSERVED BY THE EDITORS

Temperature-indicating pellets and coatings continue to find new uses as their range is broadened. Tempil Corporation, 132 W. 22 Street, New York 11, N. Y., which makes these useful compounds designed to melt when a specific temperature is reached now supplies coating compounds in more than 60 formulations-to cover the range from 113° to 2,000° fahrenheit. The pellets, each stamped with its critical melting temperature, are obtainable in 121/2degree steps from 113° to 400°, 25degree intervals from 400° to 550°, and in 50-degree steps from 550° to 2,500° fahrenheit.

Baby motors promise to make equipment design even simpler and control more reliable. Air Equipment Company of Los Angeles is making a series of permanent magnet sub-fractional horsepower motors less than two inches long (picture top left) which, it says, are particularly adaptable in servo sys-







New packing technique, using modular, slotted, and scored fiberboard sheets, makes it possible to fit containers to odd-sized packages and mixed orders. Signode Steel Strapping Company, Chicago 47, Ill., which developed the Adjusta-Pak system, says these modular container sections, held together by tensional steel strapping, not only help to reduce the amount of inner packing materials required and the over-all cubic volume of the shipment, but also provide excellent protection during interstate and export shipment.

A powder that removes plate is Enthone, Inc.'s latest development for the electroplating field. It's a special type of powder which,





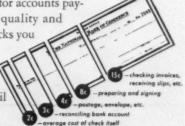
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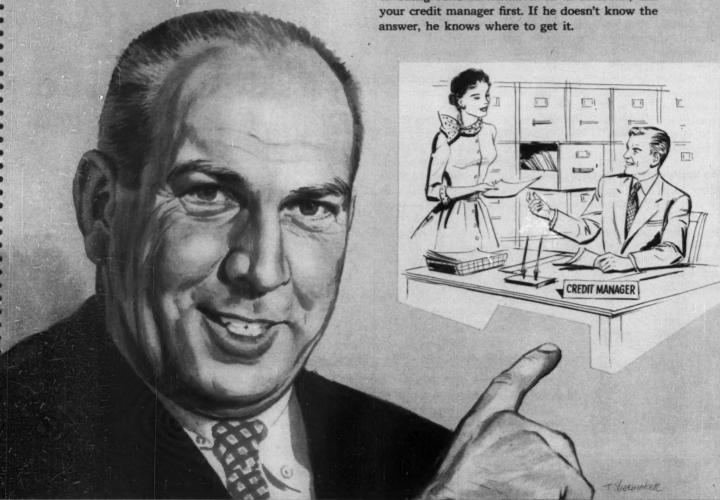
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rent information on customers and prospects into increased sales! Here in the files of your credit department are opportunities to make new customers out of promising marginal risks, and an occasional caution signal which suggests a review of the sales relationship.

Don't overlook the wide range of information, not only in the credit folder with its reports, but also in the daily experience of your credit men whose eyes and ears are as alert for new sales leads as they are for warnings of trouble.

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## Dun & Bradstreet, Inc.

139 OFFICES IN PRINCIPAL CITIES OF THE UNITED STATES HEADQUARTERS: 99 CHURCH STREET, NEW YORK 8, N. Y. Enthone reports, greatly speeds the action of acids in dissolving defective chromium and nickel coatings off copper-base metals—and does the job without injuring the base metal. Enthone is using the powder in its types S and 16S Enstrips.

Dry fluid-drive, a power-transmission unit that uses fluidized steel shot in place of a liquid flow charge, is now being made by Dodge Manufacturing Corporation, Mishawaka, Ind., for such industrial applications as compressors, centrifuges, conveyors, crushers, industrial trucks, and a wide variety of steel, textile, and oil field equipment. Developed in France, the new unit, named the Flexidyne by Dodge, is said to be particularly good for applications involving heavy inertia and shock loads. (The photograph here shows it installed on a foundry cart.) Simple in construction and basically low in cost, it can be made in either directmounting or coupling types. Other advantages are reported to be

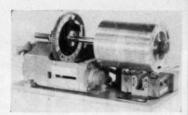


smoothness of starting, vibration damping, non-slip operation, adjustable torque. The latter is achieved just by varying the amount of charge delivered to the unit. Dodge is now making four sizes, rated at 3 to 30 horsepower (1,800 rpm). Others will be added.

Sectionizing is the latest development in automation equipment. It's a term used by Cross Company to describe its new Transfer-matic units for performing a series of metalworking operations (drilling, reaming, facing, and so on). The multi-station machines are so arranged that any section may be shut down while the others remain in automatic operation—an important time-saving feature when tools must be changed and minor adjustments made. The new units, and such auxiliary equipment as the

Toolmeter, are fully described and pictured in a sixteen-page booklet, obtainable from Cross Company, Detroit 7, Michigan.

New aid to automation is the multi-stage circuit controlling counter pictured here. Named the Programonitor, it can be used to count shaft revolutions, strokes of reciprocating mechanisms, or electric impulses, can be furnished with a universal-type cylinder, as shown, or with special program cylinders. Counter & Control Corporation, 5213 West Electric Avenue, Milwaukee 14, Wis., which makes the



device, believes it should have wide application in the automatic control of machinery, processing equipment, and display units—wherever switching functions occur at several intervals in a cycle which must be repeated.

Small businesses may profit from one of the latest IBM machines: the IBM Cardatype Accounting Machine. It is reported to centralize many paperwork operations that now occupy several departments, and have them done by one operator. In addition to the automatic computing unit, the machine includes an Electric Typewriter, an auxiliary numerical keyboard, and IBM equipment for reading punched cards and controlling the operation, plus installation facilities for additional units.

**Photocopy machines** are being improved in many ways. Just for copying material bound in books there are a host of recent developments:

The Contoura-Constat, a twounit portable machine made by F. G. Ludwig, Inc., Deep River, Conn., uses an inflatable plastic cushion as a light diffuser, so that it can adjust to varying contours. The unit can be lifted out of its case, to reach material attached to walls and the like.

A flat-bed printer, from Peerless Photo Products, Inc., Shoreham,

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- Aluminum Company of America

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TYPICAL TEST PATTERNS on Reflectoscope screen. At left, material O.K. At right, center "reflection" indicates and locates defect.



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This magazine gets thoughtful attention at the "center of authority" because its unique editorial service is directed to: Better management performance (the best way) to keep earnings ahead.

## **DUN'S REVIEW AND MODERN INDUSTRY**

A DUN & BRADSTREET PUBLICATION 99 Church Street, New York

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L. I., N. Y., is a two-unit machine that has a clearance between the "floating" lid and platen that allows bound volumes up to one-and-ahalf inches thick to be inserted.

A new Photorapid Compak, a one-piece machine developed by Copy-Craft, Inc., 105 Chambers Street, New York 7, N. Y., also is designed to handle books. Material to be copied is merely held against the glass for a number of seconds.

In the photographic field, too, is a low-cost, portable film and paper processor, offered by Oscar



Fisher Company, Inc., 1000 North Division Street, Peekskill, N. Y. This unit automatically develops, fixes, and dries prints. The company says it is self-threading and daylight-operated. Several models are made—to process various types of photographic material, including microfilm and microprints and oscillograph papers and films.

Communication, a necessary part of efficient management, is receiving much attention these days. Now the American Management Association has added a course in this department to its School of Management. Designed for operating executives, the course comprises three one-week units, covering (1) clarifying problems and developing solutions; (2) transmitting ideas; and (3) motivating action and measuring results. Courses will be held throughout 1955 and AMA membership is not required, although individual registrants will be enrolled in AMA for one year. Details may be obtained from the Registrar, AMA School of Management, 300 W. 43rd St., N. Y. 36, N.Y.

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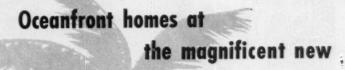
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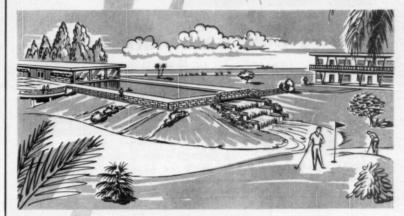
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## Inviting customers to call collect brings parts sales of \$4000 first month



Equipment Supply Co. delivers parts ordered by Long Distance.

The company serves West Texas, Southern New Mexico and Northern Mexico.

A case history of Equipment Supply Co., Inc. El Paso, Texas

To give customers quick, dependable parts delivery and service, the Equipment Supply Co. invites its United States customers to call collect by Long Distance.

In the first month of the Call Collect Plan, sales of \$4000 in parts were attributed to calls costing only \$60. And the plan is doing more than building parts sales.

"We know that new tractor sales have increased due to this promise of

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"We have gained many new customers
as well as improved relations with
our old customers."

You can start a similar plan today. The only equipment you need is the telephone on your desk. And there are many other ways you can make Long Distance increase sales. If you would like a telephone company representative to stop in and explain them, call your Bell Telephone Business Office.

#### LONG DISTANCE RATES ARE LOW

Here are some examples:

Wilmington to Lancaster, Pa. 40¢
Cleveland to Pittsburgh . 60¢
Des Moines to Rock Island . 70¢
Cincinnati to Evansville, Ind. 75¢
El Paso to Albuquerque . 85¢

These are the daytime Station-to-Station rates for the first three minutes. They do not include the 10% federal excise tax.

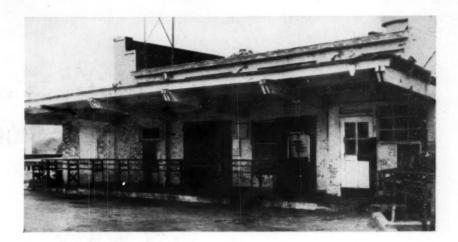
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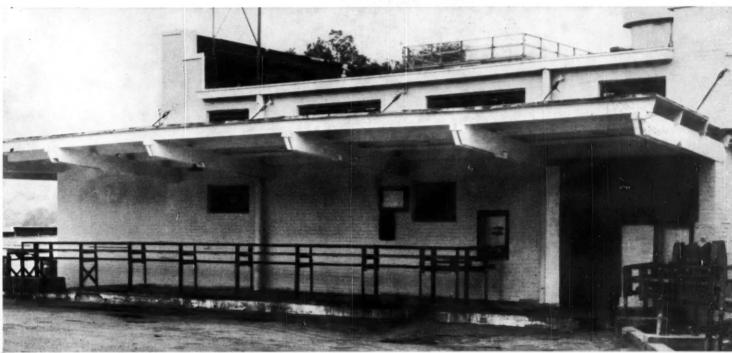
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# New protection against steam, acid and weather





New coating formulated from BAKELITE Vinyl Resins by Better Finishes and Coatings, Inc., Newark, N. J., and applied by Protective Products Co., East Syracuse, N. Y.

This is the receiving dock of The Borden Company milk plant at Wellsboro, Pa.

See the metal and masonry surfaces shown in the upper photo. Unsightly peeling and blisters testify to the need for coating performance superior to that of the ordinary paints that failed. As if weather extremes aren't enough, lactic acid and live steam add to the maintenance problem here.

That's why a coating based on BAKELITE Vinyl Resins was specified and spray applied. It seals the porous masonry surfaces, even bridging scars and cracks. Properly applied, experience shows that coatings based on BAKELITE Resins

give years longer resistance to moisture, corrosive atmosphere, acids, alkalies, and other destructive agents.

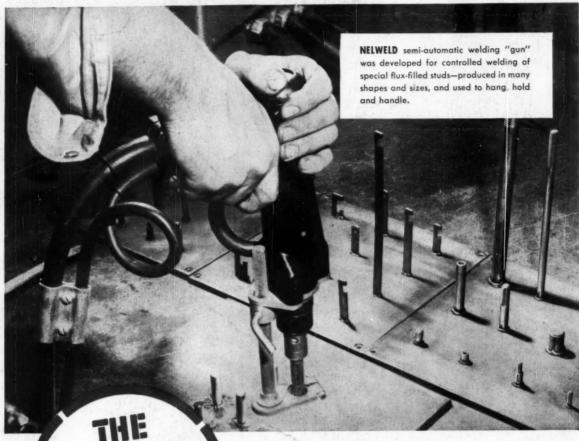
Whatever your coating problem—buildings, equipment, or products—rely on formulators of coatings based on BAKELITE Resins. For names of suppliers, and a free copy of our booklet, "BAKELITE Resin Coatings for Industry," write Dept. BB-100.

Formulators of better coatings rely on BAKELITE for "one-source service"...longer years of experience, greater facilities and greater variety of resins for unbiased recommendation and selection.



BAKELITE COMPANY, A Division of Union Carbide and Carbon Corporation [1] 30 East 42nd Street, New York 17, N. Y.

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and it was the one recommended by a Texaco Lubrication Engineer that really did the job.

"Since changing to Texaco Transultex Cutting Oil," the manufacturer reports, "our production has increased beyond our expectations... costs have been substantially reduced."

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